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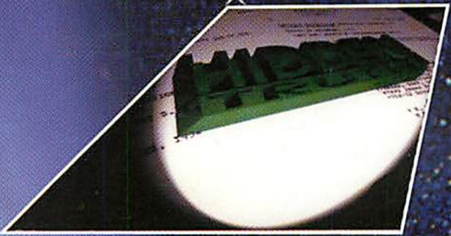
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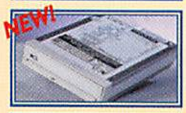
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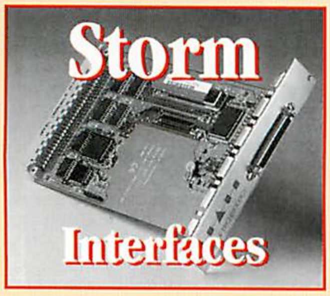
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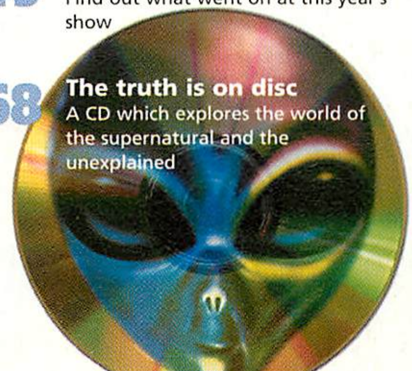
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Managing Editor Pam Turnbull
Editor Steve Turnbull
Assistant Editor Karen Peach
Art Editor Ed Burke
Sub Editor Justine Bowden

Contributors
Dave Acton, Stuart Bell, Ian Burley, Tony Cliff, Mike Cook, David Dade, Rob Donaldson, Adam Juniper, Jack Kreindler, Dave Lawrence, David Matthewman, Steve Mumford, Graham Nelson, Geoff Preston, Jill Regan, Alex Singleton, Mark Taylor, Mike Tomkinson, Paul Wheatley

Group Advertisement Manager
Elaine Prescott
Account Manager Ian Antrobus
Account Executive Carl Jackson
Ad Production Barbara Newall
Ad Typesetting Malcolm Thorley
Marketing Manager Steve Tagger
Marketing Assistant Jane Comber
Production Manager Alan Capper
Production Assistant Joanne Clifford
Circulation Director David Wren
Distribution COMAG (01895) 444055
Subscriptions & Back Issues
Database Direct 0151-357 1275
Email: database@dbdirect.demon.co.uk
Managing Director Ian Bloomfield
Cover Tym Lecky

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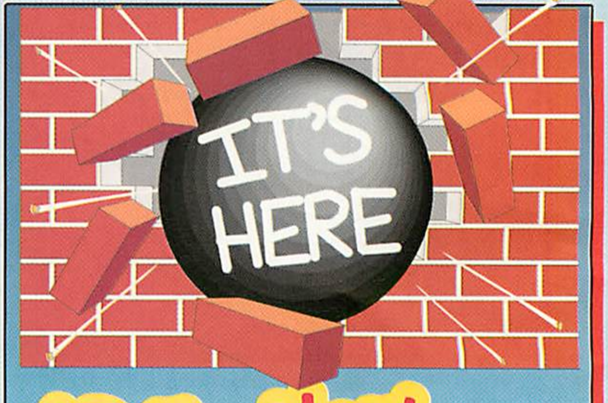
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Acorns to have Intel inside after all

Acorn die-hards have been tortured by the shenanigans of the mainstream computer industry for years. Rare respite has seen Acorn fans ridiculing such marketing hype as 'Intel Inside' slogans. Unfortunately, even that luxury may be snatched away in the wake of news that Intel have made a $700 million offer to relieve Digital Equipment Corporation of their semiconductor division. That's the same part of Digital which develops and manufactures the StrongARM RISC processor family which now powers Acorn's flagship desktop and network computers. Digital Semiconductor also produce the mega-powerful but expensive Alpha RISC chip family.

How could this state of affairs come about? For some time Intel and Digital have been at legal loggerheads over a technology dispute, with Digital initially accusing Intel of stealing patented technology and implementing it in Pentium processors. Intel have vigorously defended themselves and counter-sued. The dispute has never looked like being resolved through the courts. On the other hand, it has been no secret that Digital's chip making business is not as profitable as Digital had hoped.

It seems that Intel offered Digital a deal to rid themselves of the cash-draining semiconductor division and so solve the legal battle all in one fell swoop. For Intel, the deal nets a state-of-the-art chip plant, plus chip technologies it has few equivalents to, including StrongARM. Although Alpha has not been as successful as it should have been, the terms of the deal appear to guarantee the continuing development and marketing of Alpha technology, probably remaining under the Digital brand.

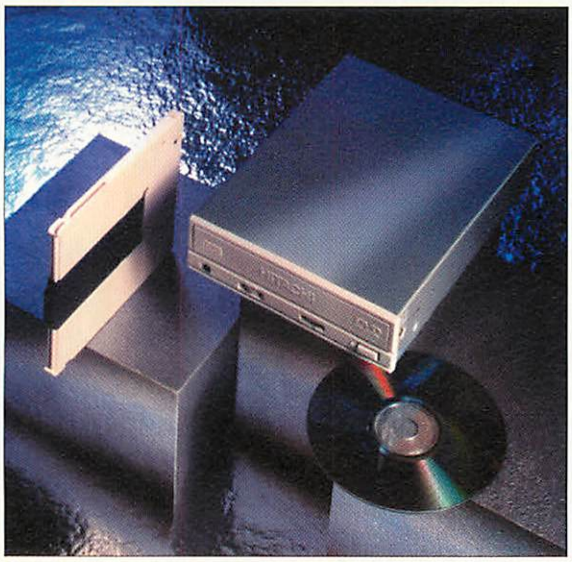
Although Digital can proudly claim to be the manufacturer of the most powerful RISC microprocessor in the industry, in the form of the 64-bit Alpha family, their market penetration has always been tiny compared to Intel and even other rivals, like Sun's Sparc processor family and the SGI MIPS RISC platform. StrongARM is a relatively small part of the Digital Semiconductor business, but in the long term probably has more potential than Alpha as a money-spinner.

Intel have no equivalent to StrongARM, so there is probably little to fear regarding the Intel takeover from a StrongARM point of view. If anything, Intel will want to move quickly to exploit this part of their new acquisition and so close an important gap in their product offering. Intel could actually be very good for StrongARM.

However, speculation about the proposed deal hinges around US government approval, as the proposals will have to be considered from an industry monopoly point of view. Few expect the deal to founder, so the prospect of Risc PCs and Acorn NCs in the future sporting Intel Inside stickers may not be so remote after all.

Industry split on re-writable DVD

We recently brought news of developments concerning re-writable CD technology which promised huge capacities to dwarf that of today's 650 megabyte CD-ROM limit. This is the extension of DVD (which used to mean digital video disc but is now referred to as digital versatile disc). DVD read-only drives are already appearing on the market, although there are still hardly any DVD ROM publications on sale to exploit the new drive technology.



DVD drives are CD-ROM and CD audio compatible, but early examples are not guaranteed to be compatible with recordable CD (CD-R) or the more recent CD-RW re-writable standard. In fact, early DVD ROM drives aren't even compatible with the new DVD recordable technologies being hammered out. Nevertheless, 120 million DVD drives of all types are expected to be shipped by 2001 and by then the familiar old CD-ROM drive could well be obsolete.

DVD represented a perfect opportunity for the new high-capacity CD format to lay down a strong and unified standard for multimedia CD recording by computer users, however, the industry has botched it and now at least two standards are fighting it out, with non-standard solutions lurking in the background. As the Acorn platform is ideal for mastering and authoring multimedia publications, the fortunes of the DVD standards are of direct interest to many in the Acorn world. Two similar technologies were proposed early on to form the basis of the official re-writable DVD standard.

The competing groups were comprised of Philips and Sony, who jointly invented the original CD 20 years ago, in one corner and Hitachi, Toshiba and Panasonic in the other corner. Sony and Philips have since pushed their standard along and called it DVD RW. However, in the lead place is the Hitachi, Toshiba and Panasonic consortium backing the DVD RAM standard. Where it gets a bit crazy is that Philips and Sony are actually 'sleeping' members of the DVD RAM consortium as well. However, it looks like Philips and Sony may not join the others in producing first-generation DVD RAM products, preferring instead to bring out DVD RW drives.

Technically, DVD RW is a simpler solution, possibly cheaper to produce and compatible with read-only DVD discs but unable to write to DVD RAM discs. DVD RW has a simpler and so less robust error correction system, which will probably force DVD RW discs to be enclosed in protective caddies. DVD RW can theoretically store more data (up to 3 gigabytes per side compared to 2.6 gigabytes on DVD RAM) however the advantage is lost when many short files are recorded.

DVD RAM takes the best bits of the two original standards and forges them into a new and technically superior standard. However, as Sony must hate to be reminded yet again, the best technology is not a guarantee of commercial success. Sony backed their superior Beta video cassette format and was defeated by the inferior VHS format. The roles are now switched, with Sony going for a simpler technology but looking vulnerable to defeat by the DVD RAM consortium.

Hitachi have just revealed that the first DVD RAM drives will start to ship early in the New Year and prices will be surprisingly affordable. With 2.6Gb capacity discs, or 5.2Gb double-sided discs, the drives will be attractive as back-up devices as well as multimedia authoring tools. Watch this space.

Spacetech show Rolls Royce of digital cameras

Ignoring professional cameras which command £6000 plus price tags, the newest and most expensive 'consumer' digital camera on the market is the Olympus Camedia C-1400L. Spacetech purportedly had just one of two officially imported examples in the country to show off at Acorn World. Spacetech's price? A cool £1299.99, including RISC OS *PhotoLink* software and VAT.



What makes the C-1400L and its cheaper sibling, the C-1000L special in one way is that they are single lens reflex cameras – you view, compose and focus through the same lens which forms the final picture.

The other remarkable point about the C-1400L is that it has a 2/3rd inch 1.4 million pixel CCD imaging chip. That's an imaging resolution of 1280 pixels by 1024 pixels, or more than four times the resolution of a more typical 640x480 camera. That's equivalent to scanning a 6x4 inch print at just over 200dpi compared to just 100dpi with a cheaper camera.

The C-1000L makes do with a 1024x768 imaging chip, which is still much sharper than typical rival cameras. Pictures are stored on removable SmartMedia memory cartridges of 2, 4 or 8 megabytes. Only a dozen maximum resolution images can be stored on a 4Mb cartridge, but a built in LCD screen enables you to view and delete unwanted images to make space for new ones, if necessary.

Alternatively, simply swap the full cartridge with an empty one. The C-1400L does not have interchangeable lenses, but has a high quality 3X zoom lens, equivalent to 36-110mm in 35mm SLR terms.

We've only seen a single sample shot taken using the C-1400L during Acorn World, but the picture quality was, as expected, excellent.

Spacetech, tel: 01305 822 753, e-mail: sales@spacetech.co.uk, Web: http://www.spacetech.co.uk

Acorn cover all their NC bases

There is still a huge industry debate raging over the viability of so-called 'thin client' computing for the office market. Acorn have staked a large part of their future in one aspect of thin client computing; the Network Computer or NC.

However, Ovum, a respected IT analyst company, have just published a report which finds that the NC model being developed by IBM, Sun and Oracle/NCI (and therefore Acorn) will not ultimately prove to be as successful as these companies have hoped and predicted.

Other analyst firms have previously hailed the NetPC, an NC-like stripped-down "Wintel" PC, as the likely winner – at the expense of the NC. Ovum, which investigated the market rather later than their competitors, have found evidence to suggest that even the NetPC will fall by the wayside. Instead, Ovum predict that so-called "fat clients" or existing PCs will continue to be popular, and where cost savings and ease of administration are required in organisations, the Windows terminal thin client will be extremely successful.

Ovum consider the consumer side of network computing, another area Acorn are committed to, in a separate report. However, the news there is not very good for Acorn, as broadcast digital TV – which is due to start service during 1998 – is expected to be the main delivery medium for Internet services and Acorn originally took a conscious decision not to develop their set-top box technology for digital TV. The question is – have Acorn missed the boat in consumer Internet via digital TV?

At first sight this does not look very promising for Acorn. Although Acorn's relationship is not as close as it used to be with NCI, the offshoot of Oracle which is responsible for developing a unified NC standard to challenge the Wintel alliance, Acorn's NC products are largely designed to be NCI-compliant. Some customer versions are not, but that's another issue – Acorn are in the NCI camp and not the PC or NetPC camp.

But what about Windows terminals? The good news is that as we went to press Peter Bondar was on the verge of finalising a contract to license the Citrix ICA protocol for the Acorn NC platform. Citrix ICA is the main contender in the Windows terminal protocol stakes, enabling its host computer to display applications running on a Windows NT server as if they were running locally.

Acorn have already licensed the architecturally similar X Windows protocol in the form of eXtend, which enables NCs to display Unix server hosted applications. eXtend is currently being used as part of schools trials of Acorn NCs organised by Xemplar Education. X windows and eXtend have their place in certain areas, like education, but Citrix and its ICA protocol is now being heralded as the big thin client winner.

As Acorn NCs will eventually be Citrix ICA-compliant, organisations looking for low-cost thin clients for their Windows NT Server networks will be able to consider buying Acorn NCs to do the job. These days you can mix and match servers on your network and a Citrix-enabled Acorn NC could also fulfil its NC-specific purpose, communicating with NC servers and applications alongside NT-hosted applications.

It's unclear whether Acorn will code their Citrix ICA implementation to run natively under RISC OS (or the new Galileo OS) for maximum performance, or whether they will license a Java version of the protocol. The latter option wouldn't have been acceptable on a Mark One Acorn NC, but the new 233MHz StrongARM powered CoNCord should have ample horsepower to do the protocol justice.

Indeed, Acorn World visitors were given a classic demonstration of StrongARM Java power, courtesy of a Sinclair Spectrum emulator, written entirely in Java, running on Acorn's RISCafé Java Virtual Machine. It was running the Spectrum version of the famous space trading game, *Elite*, and at a level of performance most Spectrum owners would have been satisfied with. The moral of this story is that to condemn NCs running Java as being too slow and too proprietary is to be out of date.

Cumana acquired by Cannon Computing

Cumana, one of the best known names in the Acorn peripherals world, have changed hands once again. Two years ago the original company were acquired by Economatics and in a deal forged just before the Acorn World show, Cannon Computing, based near Bishops Stortford, acquired the company and their stock.



Cumana did not go into receivership and business continues as usual, so existing promotions (including one with *Acorn User*) remain unaffected. Cannon and Economatics had neighbouring stands at the show and all seemed to be very amicable. Cannon were offering some very attractive deals on Cumana products at the show and the company's founder, Nigel Cannon, reassured us that products developed by Cumana would remain in production.

The Cannon family includes an electronic engineering business which have produced memory upgrades in the past, so there is certainly the capability to engineer and develop new products as the market demands. Cumana's new contact details are, tel: 01279 730 900, fax: 01279 730 809, e-mail: sales@cannon.demon.co.uk

Acorn and Oracle – where do they stand now?

NCI, the Oracle business which specifically looks after the development of NC technology and products, recently held a press briefing in London and there wasn't a Acorn NC in sight, despite the admission that the vast majority of NCs currently shipped are based on Acorn's designs.

Instead, NCI demonstrated an Acer NC aimed at the high-end consumer market and introduced Morse Computers, a business network specialist, who have been tasked with seeding the business community with 'sampler' NC packs. Acer's NC looked like a Curtis Mathes rival; a high-quality multimedia NC with the ability to browse the Internet while watching more than one TV channel, including a picture in picture option.

Morse's NC sampler packs comprise a Hewlett-Packard Pentium Pro desktop PC acting as a NC server to a pair of office NCs (which happened 133MHz Pentium-based devices to be made by Accton) plus server software and networking hardware. For under £4000, medium to large businesses can use the starter pack to try out NCs on their own networks for themselves.

NCI were looking decidedly Intel-oriented. Even the much lamented switch of attention from Acorn NCs to Digital's 'Shark' StrongARM alternative now looks out of date. One NCI representative openly admitted that they were very keen for Intel to invest in their operation.

Acorn are not ruled out of the NCI equation. Next year NCI hope to unify the IBM, Sun and Oracle-based NC platforms and Acorn will want to be part of that standard.

However, Acorn openly admits that their future also lies with partner companies which don't have a need for their NC-based products to be tied to any particular standard. Acorn are no longer doing any contract work for NCI, but remain in touch.

Eidos' new Eye on the world

One of the most innovative exhibits at Acorn World was Eidos Eye, Eidos' new video conferencing device. Even though it is still a prototype, Eidos Eye already has people talking of it as the best quality video conferencing device ever. It uses an embedded StrongARM chip to process the video signal for transmission over the Internet or similar medium – the prototype was using a mere quarter of the chip's power.

Stephen Streater, Director of Video Technology at Eidos plc, explained how the device came about, 'People are always saying that the StrongARM is designed as an embedded processor, so we decided to embed it in something. The compression in Eidos Eye is done entirely in the StrongARM using Eidos' video codec.'

'There are only really four chips on the board: The StrongARM which does all the compression and is completely programmable, the FPGA programmable hardware device, a PIC which handles all the interface to the outside word and the audio, and either a digital video camera or a digitiser chip to get the video in. There is *no* memory on the board except for the cache on the StrongARM, making the board much cheaper and simpler.'

The aesthetically-pleasing perspex-cased prototype of Eidos Eye on show was 16cm square but it is intended that the production versions will be credit card sized. The cost will be low – hopefully in the region of £100. Eidos Eye plugs into the parallel port and will work on Risc PCs and Network computers as well as PCs.

'The reason we are doing this is that we believe the industry standards H.263 and H.261 aren't of high enough quality for the mass market. We have decided to use our own software codec and use Java playback. We are aiming for VHS resolution which we think is the minimum acceptable. It's not compatible with existing videophone standards, but we hope to outsell them on the first day. Just think, playback on 100 million PCs around the world!'



Stephen Streater demonstrates Eidos Eye (Inset: detail of the StrongARM processor)

Eidos intend to sell upgrades to Eidos Eye over the Web at a small cost. One of the beauties of a software solution is that this sort of upgrade is possible. Acorn were also displaying a video conferencing system at the show; it's probably inevitable that as they move into the embedded processor market, Acorn will increasingly come to compete directly with third-party companies like Eidos.

Jill Regan

ARM Ltd unveil ARM9 generation

ARM9 was introduced at the recent Microprocessor Forum '97 event. The first two products resulting from this new architecture are the "Thumb-aware" ARM9TDMI and the ARM940T. "Thumb" is ARM's technology for delivering 32-bit RISC performance for solutions at a 16-bit cost.

ARM9 devices are expected to find their way into cellular phones, pagers, smart phones and set-top boxes. The ARM9TDMI is the base processor core, while the ARM940T adds features which improve system performance and utility.

ARM say that the ARM9 architecture offers more than twice the performance of ARM7 equivalents. This won't mean ARM9 will compete with Digital's StrongARM product, but maintains ARM's goal of increasing performance without sacrificing cost and power consumption parameters.

Robin Saxby, ARM's president and CEO, explained: 'The introduction of ARM9 fortifies our performance roadmap between the ARM7, ARM8 and StrongARM and offers OEMs, standardising on the ARM family, a wider choice in performance, power and die size. ARM9 also extends the success of our extremely popular Thumb technology, giving our semiconductor partners and their customers the competitive advantage they need.'

According to ARM literature, the ARM9TDMI core is a small, high performance, power-efficient 32-bit RISC processor. The core features a five-stage pipeline, Harvard buses, Thumb extension and full debug access to all programmer's model states. The Thumb code compression extension delivers 32-bit RISC performance at 16-bit system costs through the efficient use of a second, compressed set of 16-bit instructions, which reduces memory use by a third.

The ARM940T adds separate instruction and data caches to the two memory data buses for reduced access time to both instructions and data. The ARM940T also contains a write buffer and a new protection unit designed specifically for embedded operations. This new protection unit requires no address translation and contains eight individually programmable instruction and data protection regions.

These can be specified as to base address, region size, and cache/buffer properties. Predicted clock frequency for both devices is approximately 150MHz, with a predicted MIPS rate of 165 @ 150MHz. Power consumption for the ARM9TDMI is 1.5 mW of power per MHz at 2.5 volts. Power consumption for the ARM940T is 4.5 mW of power per MHz at 3 volts.

A future ARM9 product will extend the protection unit in the ARM940T to include a full memory management unit (MMU). This will enable the ARM9 to be implemented as a stand-alone microprocessor. Although Acorn have no immediate plans to produce ARM9-based products, their new Galileo operating system is designed with exactly this kind of microprocessor in mind.

Koreans could provide RISC OS development

One of the most popular exhibits on the Acorn stand at Acorn World was that from a team from Korea's Electronics and Telecommunications Research Institute (ETRI). ETRI licensed RISC OS last year and have used it to produce a multimedia travel guide which is accessible via a touch-sensitive LCD screen.



At the time of writing, RISC OS is used to portray the digitised maps and manage the user interface. The touch-sensitive screen means you can draw symbols or write words which can be recognised and acted on. For example, you can draw an arrow to indicate the direction you want to travel and the map will scroll in that direction. Alternatively you can enter a word, say 'hotel' and details of hotels in the displayed vicinity can be accessed. If that's not enough, there is also a speech recognition facility. According to the ETRI team, although the speech and pen recognition functions are currently delivered by secondary networked computers (a PC and a Unix workstation to be precise), they are working towards migrating the whole system to RISC OS and they expect to be in a position to offer these recognition technologies to other RISC OS developers in the future.

The availability of these RISC OS enhancements through licensing deals would close a couple of major gaps in RISC OS' capability. ETRI's website is at: http://com.etri.re.kr

Risc PC 2 snippets

Acorn were faced with a dilemma at Acorn World. An appearance by Risc PC 2 had been promised for a long time, but not too much fuss about Acorn's new baby was sought as Acorn will be relying on continued sales of the current Risc PC for at least another eight months. May 1998 is the earliest likely shipping date for Risc PC 2, according to Peter Bondar.

Evolution of the Risc PC 2 design has carried on apace this year. Originally Acorn spoke of their desire to fit the new motherboard into the existing and much admired Risc PC modular case. However, the decision to include PCI bus expansion card slots as well as traditional podule slots, plus the requirement to conform to more stringent radio frequency emissions limits, effectively forced Acorn down a PC-standard case route. The prototype at the show was housed in an anonymous looking PC ATX-style case and stand visitors were being asked which style and configuration of case they preferred.

Don't hold your breath for IEEE-compliant floating point computation support for StrongARM-based products, warned Bondar. This will disappoint some, but Bondar balanced this point by stressing that many new applications were being developed to deliver optimum performance without the need for hardware floating point support. It looks like Risc PC 2 will have copious amounts of video memory, possibly up to 16 megabytes and the main system bus will be several times faster than the Risc PC's bus, a known performance bottleneck while running the StrongARM processor.

Bondar also told *Acorn User* that the new machine will be a much more capable PC-compatible, if required, with support for 'real' Pentium processors and even the probability of support for Intel's latest Pentium II processor family. On the native StrongARM processor side, up to at least five processors will be supported by the new design and RISC OS 4's design team has borrowed some program routine scheduling and execution management ideas from the new Acorn Galileo operating system to exploit the availability of multiple processing. Never has eight months felt like such a long time in the future!

New products/upgrades

Product	New features/product details	Price	Contact
Samsung 24x CD-ROM for RiscPC	* Claimed to be the world's fastest IDE/ATAPI CD-ROM drive * Supplied with RISC OS installer, DOS /Windows driver, 3 way IDE cable, sound cable and full Acorn specific fitting instructions * Requires RISC OS 3.6 or later	£119.95	Clares Micro Supplies Tel: 01606 48511
Digital Area Analysis for RISC OS (version 2.59)	* Intended for more general useage rather than the specific civil engineering bias * Writable icons for user's own area types * Demo version available from website	£99 + VAT	Wardlaw Surveys Tel: 01463 831214 WWW: http://www.wardlaw.demon.co.uk
Squeak Smalltalk (version 1.23)	* For RPCs with OS 3.7 * Additions include working sockets, better display handling, faster interpreter and many bug fixes		Tel: 01415 856 7230 http://sumeru.stanford.edu/tim
Alphapics	* For children who are learning to match letters to sounds and/or pictures * Keeps track of performance * Records can be printed	£25 (single user) £50 (site licence) (Schools needing both versions can get the second at half price)	Topologika Software Tel: 01326 377771
Matti Mole's Summer Holiday	* Presents 16 (all at 3 levels of difficulty) stimulating language activities linked with the storyline * 10 different interactive screens to explore * 4 fun games to play * For ages 8 - 9	£40 (single user) £65 (Primary site licence)	Sherston Software Tel: 01666 840433
Oxford Reading Tree clip art	* Includes characters and images from the Stage 1 to Stage 9 range of the Oxford Reading Tree * Enables teachers and children to create their own material and stories	£20 (includes free site licence) Additional formats: £10 each	Sherston Software Tel: 01666 840433
Matrix	* Cross-curricular, content free program to help develop the matching and sorting of various attributes of objects and concepts * Particularly beneficial for young children with learning difficulties		Le Computer Tel: 01376 348886
TypeTutor	* Desktop touch typing package * Full compatibility with special keyboards on the Risc PC and A4 * Score Board system detailing errors, speed and accuracy	£10 fully inclusive (make cheques payable to The ARM Club)	The ARM Club FREEPOST ND6573, London N12 0BR
Webspell	* HTML-aware spell checker	£15 single £40 site	RComp Tel: 01925 755043
HTMLEdit v 3.5	* Fully supports Java, JavaScript and Shockwave * More error checking options and validation functions * Special <META> options are supported and more	£49 single £150 site £10 upgrade from v3	RComp Tel: 01925 755043
Site Master	* WWW site management system	£25 single £65 site	RComp Tel: 01925 755043
Webster	* Web browser with full support for frames, tables & forms * Supports RISC OS plugins allowing for Java & Shockwave * Sound & music support * Netscape & Internet Explorer compliance	£20 single £55 site	RComp Tel: 01925 755043
Locksmith	* Fully featured security system for single machine or whole network	£15 single £40 site	RComp Tel: 01925 755043
Wizard Apprentice	* Game by Fantasia Soft * Available on single CD * Requires Risc PC with 5Mb RAM and 1Mb VRAM	Reduced to £24.95 plus £1 p&p until end Jan 98	The Datafile Tel/fax: 01934 644046
LjDuplex Professional	* For printing double-sided without having to turn pages over by hand * Requires Duplex Laserprinter and Acorn and/or Turbo drivers	£25 + VAT	Mijas Software Tel: 01962 774352

Re: Oxford Reading Tree clip art

In the December issue of *Acorn User* the price of the *Oxford Reading Tree clip art* package was incorrect. It should have read £20 + VAT. Apologies for any inconvenience caused.

Exhibition update

SCOTTISH ACORN COMPUTER SHOW
The Marriot Hotel, Glasgow,
Sun 23 November 1997 (10am - 5pm).
Tel: 0141-644 4952
THE MIDLANDS ACORN SHOW
National Motorcycle Museum,
Birmingham, Sat 6 Dec 1997.
Tel: 07010-709849
ACORN SOUTHWEST SHOW
The Webbington Hotel, Loxton, North Somerset Sat 7 Feb 1998.
Tel: 01707-894745
NEW DATES FOR WAKEFIELD SHOW
To enable Acorn to demonstrate the next generation of Risc PC to the mass market place, the Wakefield Acorn Spring Show scheduled for Saturday and Sunday 24/25th April 1988 has been postponed to the 16/17th May 1998.

The Wakefield Acorn Computer User Group apologises for any inconvenience this may cause, but feel that the decision to postpone is more than justified by the potential benefit to both exhibitors and visitors.

SyQuest SparQs challenge to Iomega

SyQuest EZflyer 230Mb removable hard disc drives are already popular with Acorn users. SyQuest's more expensive 1.5Gb SyJet solution is also well established. However, SyQuest have not had a product to compete head to head with another very successful removable hard disc product, the 1Gb Iomega Jaz drive.

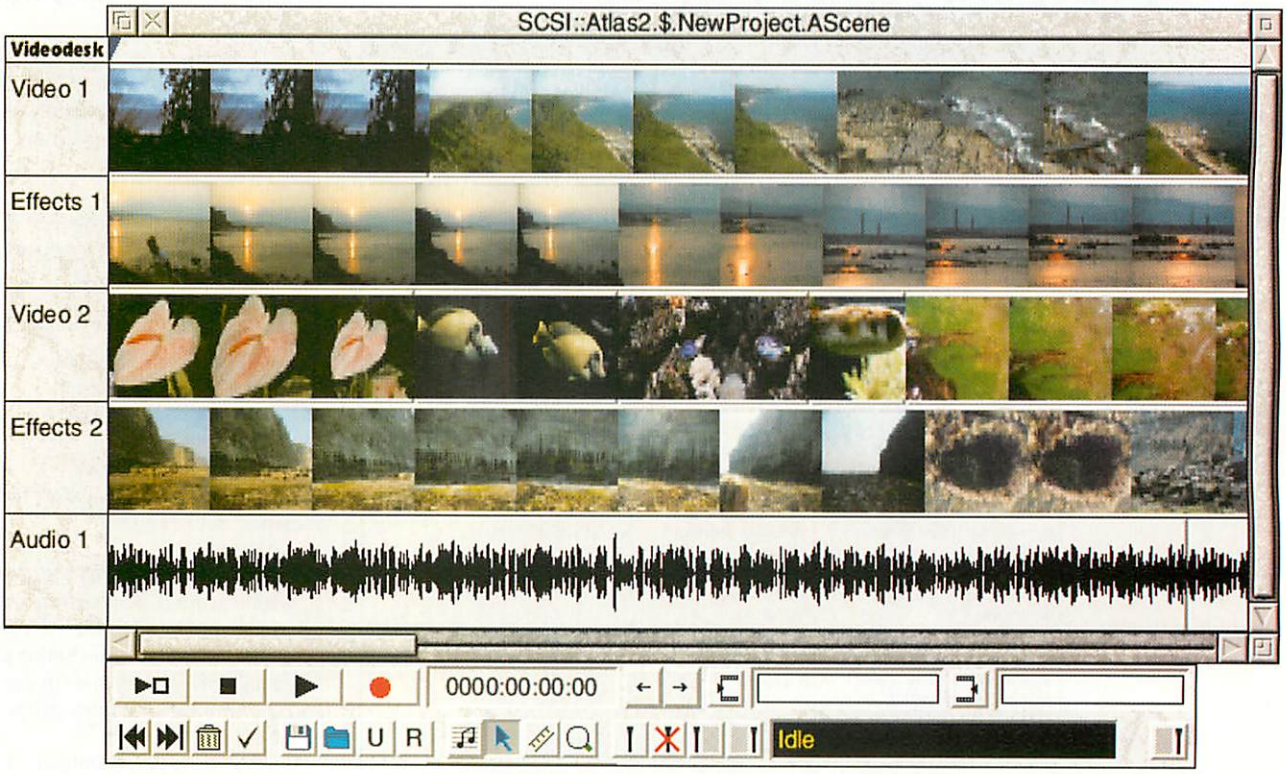
Already launched in the US, SyQuest's new 1Gb SparQ system arrives in the UK in the New Year. SparQ promises similar performance to Jaz, yet for substantially less money. In the US SparQ drives are starting to sell for $199 (£120), about half that of an equivalent Jaz drive and spare cartridges are priced at less than $40 (£24). UK prices will inevitably be higher, but Iomega will undoubtedly be challenged severely by the SparQ product. At present, SparQ is only shipping as an EIDE or parallel port compatible product, so SCSI fans will have to wait. SyQuest's website is at: http://www.syquest.com

Contacting me

You can contact the news page by writing to me Ian Burley at the usual Acorn User address or by e-mail: aunews@idg.co.uk

Videodesk

Full-frame, True-Colour, Non-Linear Video Editing System.



Videodesk

- Frame accurate editing.
- Separate audio and video tracks.
- Instant playback of edits.
- Effects include mix, fade and wipes etc.
- Multi-level undo and redo.
- User selectable quality factor up to S-VHS*.
- Composite and S-Video inputs and outputs.
- Resolution of up to 768 pixels x 576 lines.
- 50 fields per second capture and playback.
- 24 bit colour range.
- 16 bit stereo inputs and outputs.
- Audio sampling up to CD and DAT rates.
- Direct-to-disc recording.
- Built-in hardware Moving JPEG (MJPEG) Codec.
- Contrast, Brightness and Saturation adjustment.

Videodesk is a significant advance in video editing for Acorn machines. It allows full-size, full-colour and full-motion video to be compressed to disc in real-time using MJPEG hardware. The compressed data can be edited frame accurately and output back to video. Unlike tape-based editing systems there is no generation loss or waiting for tapes to rewind.

Complete video editing software is supplied as standard, which is sophisticated, flexible and simple-to-use. Editing is done on a multi-track time-line with separate audio and video tracks. Effects are generated digitally and include mixes, wipes and fades. Sequences of clips can be played back continuously without waiting for them to be assembled into a single file. So there is no waiting to preview an edit and disc space is not wasted. **RiscTV** is supported for real-time desktop display up to full-screen size.

Videodesk is available now direct from Irlam Instruments Ltd.

For the Complete Picture...

Irlam Instruments Ltd, Brunel Institute for Bioengineering, Brunel University, Uxbridge, Middlesex, UB8 3PH. Tel/Fax 01895 811401. Email: sales@irlam.co.uk
Website: www.irlam-instruments.co.uk

Please note: Videodesk requires a RISC PC, large fast hard disc and 8Mb RAM minimum. A StrongARM processor is recommended. Check suitability for your computer before ordering. 1 years guarantee. E & OE.
*To obtain good quality video requires storage of around 1.5Mb per second (5.4Gb per hour).

Access

VISA

Graphics and DTP at Acorn World '97

The show turned out to be a good event for artists, designers and publishers. Though the attendants were spread a little thin, interesting software developments were abundant at Wembley Exhibition Hall 3. The distinct move by Acorn as a whole to attack the Internet market has had a significant impact on RISC OS software development.

New Web page design tools have sprouted up all over the place. Established HTML editing software authors like R-Comp revealed a greatly expanded design tool kit, indeed a whole portfolio of products aimed at mid to high-end website designers and maintainers. Dalriada were demonstrating *WebSpider*, a very simple to use WYSIWYG Web type program, aimed at the novice designer.

Most surprisingly a version of the multimedia interactive DTP application, *TextEase*, with new HTML import and export filters was on display at the SoftEase stand. The ease of creating multiple, linked Web pages without knowing a single thing about HTML was uncanny using *TextEase* making it the first 'conventional' publishing application that can claim to generate Web-compatible files with graphics and links.

Many Acorn designers I met at the show have hopped onto the Internet bandwagon, having realised the potential of website design. The 'art' of website publishing will be an area of focus in the Graphics page throughout the new year.

Thankfully the rise of Internet design tools has not pushed traditional graphics and DTP into decline. The latest version of BeeBug's superb publishing package, *Ovation Pro*, with its professional publishing extension, confirmed that *Impression*'s domination of the wordprocessing and page-creation market is truly over. It is astonishing to think that such a brilliant and comprehensive application as *Ovation Pro* has been coded by one man.

Another new release came from Icon Technology, with HTML and Microsoft Word read/write capabilities for *EasiWriter* and *TechWriter*.

Purely artistic types will not have been disappointed at the show either. On the Spacetech/Sincronia stand were new extensions to both *Photodesk 2* and *TopModel 2*. The complete rewrite of *Photodesk* required to implement layers has not yet been undertaken, but a whole new set of plug-in special effects were on sale.

The results from the new effects are brilliant, as are the new plug-in effects to *TopModel 2*. After little news from Sincronia since the launch of *TopModel 2* it was a great surprise to see the team from Turin demonstrating a new distortion effects plug-in, a full 1000+ textures and objects CD-ROM (both on sale at the show) and previewing some very advanced modelling and animation tools to come.



The latest digital camera drivers and new Photodesk 'FX' plug-ins from Spacetech

Also on the Spacetech stand was one of only a handful of Olympus' new 1280x1024 pixel digital cameras in the country, plugged into *Photodesk* via a *PhotoLink* driver. The image above was from a superb original taken by the Olympus.

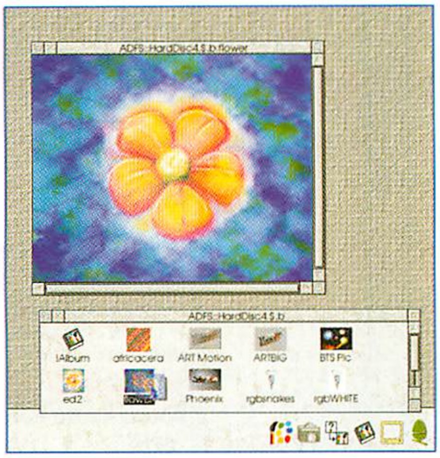
On the fonts front, EFF were selling both their *Professional Typography* 1997 CD-ROM and the £1 4000 *Public Domain Fonts* CD-ROM, putting all of the other 'penny a font' CDs in their place. Just next door, Look Systems, the only Acorn company officially licensed to sell the industry standard Monotype fonts, were pleasing the crowds with *Font Directory Pro* – what better a way to manage 2500 fonts I say. Fabis' *EasyFont Pro* (on show together with a faster version of *Recycler* and *EasyClip*) is still the only real challenger but *Font Directory*'s technology and features have been furthered still.

Irlam had an excellent stand with a new implementation of *ImageBank*, called *Album* which displays vector and bitmap file thumbnails in standard RISC OS filer windows, à la Adobe *Photoshop* files on the Mac.

More important, however, was the public launch of *VideoDesk*, an on-line video editing system using the MovingJPEG codec, bringing to the classroom and amateur producer a quality somewhere between SVHS and Broadcast for under a grand – a real breakthrough in the price-performance ratio thingybob.

So what of Acorn? Well, the centre stand had a couple of interesting exhibits for the graphically inclined. Most visible were a Korean company's Risc PCs in laptop cases running RISC OS through touchscreen LCD interfaces. Displays of the future, perhaps? The prototype Risc PC II had lots of stickers on the new bits, many of which have been designed to boost the graphics performance of the Acorn's flagship desktop machine.

Pete Bondar, from ART, explained how 4Mb+ of VRAM and a video bus over twice as fast as the current one would give us bigger screen modes in more colours; the multiprocessor potential of the Risc PC II speaks for itself and an integrated PCI bridge connecter to a higher bandwidth podule and memory bus would dramatically boost performance. And, if the drivers are written RISC OS software will be able to directly exploit the power of dedicated 2D and 3D PCI graphics accelerator cards. Promising, but many months away yet.



Irlam's 'Album' image filing system

Contacting me

You can contact the graphics and DTP page by writing to me, Jack Kreindler, at *Acorn User*, Media House, Adlington Park, Macclesfield SK10 4NP, or by e-mail to augrafix@idg.co.uk.

Showroom open Mon-Sat 10-18.00 hrs (All prices INCLUDE VAT) Carriage not included

CD-ROM Drives

New

Multi-Session, PhotoCD, CD-DA, White & Green Book compatible. SCSI drives require SCSI card withCDFS>2.20
Carriage: a=£2, b=£6, c=£8

Internal CD-ROM Drives

Panasonic 24xCD **ATAPI**	£80c
ATAPI Cable & Fitting Kit	£10a

Above drives are compatible with RiscPC Computers with RiscOS 3.60 or greater and all A7000 Computers.

Sony 2x CD **SCSI** 275ms	£80c
Pioneer 12x CD **SCSI** 130ms	£Callc

External CD-ROM Drives New

Panasonic 24xCD **ATAPI** - suitable for Simtec IDE interface	£170c
Sony 2x CD **SCSI** 275ms	£135c
Pioneer 12x CD **SCSI** 130ms	£Callc

TopicART CD £10

This CD-ROM contains over 2000 ClipArt files, each in Draw, ArtWorks & CorelDraw3.0 EPS formats. The CD also includes high quality Replay Movies & other demos. Site Licence is included.

Hard Discs

New

Carr.: a=£2, b=£6, c=£8

NEW!! Simtec IDE Interface £69

New High performance IDE/ATAPI interface for all RiscOS Computers from A3000 to RiscPC (specify when ordering). Supports up to 4 IDE/ATAPI devices including ATAPI CD-ROM Drives.

3½" Hard Drives	IDE	SCSI
IBM 540Mb	-	£150b
Quantum 1Gb	£Callb	-
Quantum 2.1Gb	£150b	£260b
Quantum 4Gb	£215b	£Callb

Syquest Removable SCSI Drives

105Mb Int Drive	£90b	105Mb Cartridge	£29a
EZ230 Ext Drive	£160c	EZ230Mb Cartr.	£21a
EZ135Mb Cartr.	£20a	270Mb Cartridge	£40a

Hard Disc Interfaces/Accessories

IDE interface	£69b	50-50C SCSI Cble	£12a
Morley Uncached	£100b	25D-50C SCSI Cbl	£12a
Morley Cached	£165b	SCSI2-50C Cable	£18a
Cumana SCSI II	£175b	SCSI2-25D cable	£18a
		50IDC 4-way SCSI	£12a
External case/psu	£90c	50C Terminator	£12a
2nd IDE Drive Kit	£15a	50HPC Terminator	£15a

zip/jaz Drives

New

Now include our RiscOS JazZip tools (£15 if purchased separately)

- zip & jaz Drives work just like hard drives except they are removeable, giving instant access to files
- 100Mb discs for zip & 1Gb discs for jaz drives.
- The drives are fast. Data transfer speeds up to 1Mb/s for zip drives & >5.5Mb/s for jaz drives - ideal to backup your hard drive.
- Each drive comes with 1 year warranty and a starter disc.
- These drives require a SCSI card that is suitable for removeable devices.

Internal SCSI zip drive (5¼")	**£120c**
External SCSI zip drive	**£120c**
External Parallel zip drive	**£150c**
Single 100Mb zip Cartridge	£14a
Pack of 6 zip Cartridges	£60b
Internal 1Gb jaz drive (3½")	**£240c**
External 1Gb jaz drive	**£320c**
Single 1Gb jaz cartridge	£70a

Carriage: a = £2, b = £6, c = £8, d = £10

JazZip Tools

New

The ultimate utility for SCSI or Parallel Iomega Zip/Jaz Drives

£15a Inc VAT

(free when purchased with a drive)

JazZip provides you with a complete set of RiscOS tools for Jaz/Zip drives which are equivalent to those provided with the PC DOS utilities that are provided with Iomega drives. Requires a driver for parallel use. Features include;

- Password protection of discs using the standard Iomega protection features which are compatible across RiscOS, PC and Mac platforms.
- Lock/Unlock zip/jaz discs without passwords.
- Lock/Unlock zip/jaz discs with passwords.
- Unlock zip/jaz discs until next ejected from drive.
- Low Level format zip/jaz discs.
- Initialise zip/jaz discs for RiscOS.
- Initialise zip/jaz discs for DOS/Windows.
- Unprotect the Tools disc provided with drives to allow them to be reformatted/Initialised for Acorn
- Compatible with IZipFS, Morley, Cumana, VTi, PowerTec SCSI. Other support to be verified.

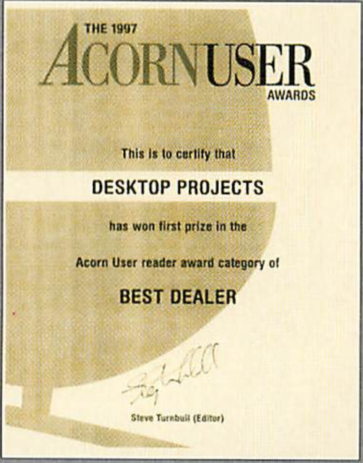
Special Offer

Entry Level RiscPC

233MHz StrongARM RiscPC, 4Mb RAM, 1.2GB HardDisc.

£850

Add £140 for ADI 14" Monitor
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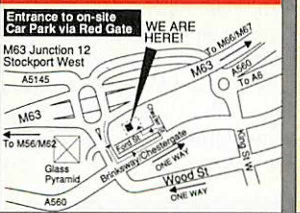
BJ-10 (BC-01)	£18	BJ-200 (BC-02)	£19
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BJI-201bk Black	£6	BCI-21Bk Black	£9
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Budget DTP (Dabs)	£5.00a
'C' A Dabhand Guide (Dabs)	£5.00b
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Populous (Krisalis)	£25
Real McCoy 2/3/4/5	£24 each
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Sally & Wally (Oregan)	£21
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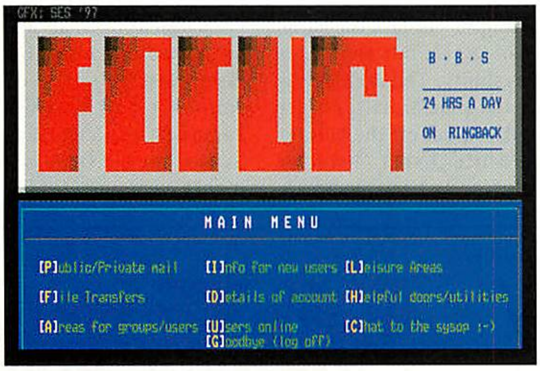
XMAS

comms

On the way to the Forum

In November 1996 I compiled a map of the United Kingdom showing the location of all the Acorn-interest bulletin boards. The map was to illustrate a computer club talk about Comms, and the members' comms interests at that time were fairly equally disposed between the BBS scene and using the Internet.

I have just updated the map for another club talk using the current version of the Acorn BBS list compiled by Steve Pursey of Arctic BBS, and the count of UK bulletin boards online had dropped from 22 in November 1996 to 14 in October 1997. It's interesting that, in spite of the reduced number, four BBSs in this year's map are completely new entries.



Forum BBS happening in Hampshire

One of these is Forum BBS, run by Luke Stutters and his brother Edward from their home in Waterlooville, Hampshire. Forum BBS is an A5000 running *ArmBBS* software and uses what Luke describes as an unbadged 33,600bps modem and a simple telephone line-sharing system called Ringback.

BBS callers dial the number and let it ring once, then drop and call again immediately, when the modem will answer. This doesn't cost anything extra but allows voice calls to be answered in the normal way, and the likelihood of a voice call immediately following a BBS user's first call is pretty small.

Luke and Edward's BBS is still in the early stages, but has all the usual features including ANSI graphics by Steve Smale, programming and user group areas and a growing filebase. Luke plans to offer CD-ROM access to give users more PD programs to download and add a serial port card when he can afford it.

Luke attends St John's College in Southsea, Portsmouth where he's studying for GCSEs in science subjects, and aims to go on to university to read for a maths degree. In his spare time he plays drums in the percussion section of his local brass band – The Highbury Band, and when he's not playing snooker at home, Luke enjoys programming in BBC Basic. His current project is a disc magazine creator.

Forum BBS is online from 4:30pm until 9pm on weekdays and 8am until 10pm at weekends on 01705 254244 (Ringback).

Looking back

In August 1992 I was invited to take over editing the *Acorn User* Comms page, and since then many Bulletin Boards, websites and words have appeared here. In February 1995, *Acorn User* looked into the future of Acorn computing, but my mock-up projection of the February 1997 Web-based issue of *Acorn User* magazine hasn't quite come true yet.

However, in archives on my system, I have kept all the screenshots, pictures and copy of the Comms page since that first August 1992 issue. I thought it would be an interesting challenge to re-create all the past Comms pages as accurately as possible in HTML on the Web.

How well that can be achieved you can judge for yourself, by having a look at the pages of my nearly-completed archive. I have optimised the HTML and page design for viewing with *ANT Fresco©*, which offers some extensions to the W3C standard HTML 3.2. The pages use HTML Tables extensively, with Fresco's additional tags that create table background colours and justify text in columns.

I've had to employ a few tricks to make the pages also display reasonably well on *NetScape 3* and *MS Internet Explorer 3*, unfortunately neither of which respond to the justify tag, and while the current version I have of *ArcWeb* will show all the text, table formatting is lost.



The August 1992 Comms page on the Web

You should be able to access the Comms page archive from the *Acorn User* website at http://www.idg.co.uk/acornuser/ or go directly to the archive site at http://www.ndirect.co.uk/~thecommspage/, and while you're there have a look at the very competitive services offered by NetDirect Internet who are hosting the archive site.

NetDirect Internet
http://www.netdirect.net.uk/
Tel: 0181 293 7000

Contacting me

Keep sending me interesting URLs for the next yoUR List by e-mail to david@arcade.demon.co.uk, or mail #2 on Arcade BBS 0181 654 2212.

Looking up

The Internet Public Library aims to provide library services to the Internet community by finding the good stuff, organising it, and making it easier for people to find and use. It's also committed to promoting librarianship and sharing interesting ideas and techniques with other librarians. Reference sources cover a wide area including Arts, Humanities, Business, Science, Technology and Entertainment. At the IPL you can find out how to say 'hello' in over 30 different languages.

The Internet Public Library
http://www.ipl.org

ANT anti-spam

Monty is a Usenet Spam/UCE combating program for the *ANT© Internet Suite* available for free download from Illusion Software's website. Unsolicited Commercial E-mail is an unceasing problem, and David McCormack and Alisdair McDiarmid's compact program *Monty* helps by disguising your e-mail address in *ANT*-generated newsgroup postings to thwart return UCE mailings. The Illusion site has other free download offerings worth a look.

Illusion Software
http://www.illusion.oaktree.co.uk/download.htm

Smaller faster

The Campaign For Smaller Faster Code is a small programming group who write freeware and shareware software that is small and fast. There is a section on their website called Handy Hints that suggests how to do this in BASIC and Assembler, as well as advocacy on the excellence of Acorn machines and their compact program space requirements. Andrew Hunter and Matthew Bland maintain the Geocities website and you'll find some free downloads there including *QTM*, the tracker music player that also plays *Digital Symphony*, *Coconizer*, *ArcTracker* and even audio CDs.

The CFSFC
http://www.geocities.com/~cfsfcpage

V-Cache URL

Many apologies for repeatedly missing out the URL for the excellent *AutoVCache* module which greatly speeds up graphics on StrongARM machines by caching the screen memory. *AutoVcache* can be found at http://home.braunschweig.netsurf.de/~torsten.karwoth/software/softw.html

On the same lines as *AutoVCache*, a faster version of the *Floating Point Emulator* module is now available. The code hasn't actually been optimised but has simply been altered to use less accuracy in the floating point calculations. For applications that don't require massive accuracy you can gain a small speed increase. *NewFP* can be found on HENSA.

Intergif 6

Intergif has reached version 6 and now features support for draw file animation. In case you've never seen it before, *Intergif* is *the* package for creating GIFs for web pages. I find it invaluable. Check the *Intergif* website at: http://www.ant.co.uk/~peter/software/intergif.htm

SymbioSyS

Cross-platform groups are all the range on the Amiga and PC scenes, but one of the few groups with PC and Acorn coders is the Irish based SymbioSyS. Three of the ten group members are proud Acorn owners and authors of several PD utilities including *DJCtrl*.

This is a complete Deskjet printer control program by Robert O'Sullivan and David O'Shea. If you're a Deskjet owner make sure you check it out. For further information on the group and their software take a look at the website at http://kola.dcu.ie/~pc4

Argo archive

With a wide range of independent ftp sites to use, the locally hosted sites of the Internet providers are often overlooked. Demon were one of the first providers to hold Acorn software, but others have since followed suit. Argonet have a fairly large site, maintained by Richard Goodwin, that's well worth checking out.

Drop the following URL into your browser and enjoy: ftp://ftp.argonet.co.uk/pub/Acorn/PD

Bouncy

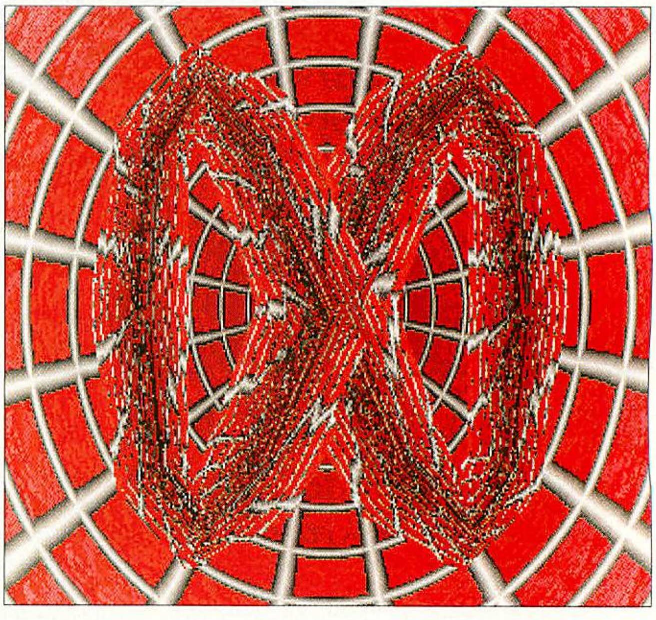
Despite the rather dubious title, *Bouncy* is yet another of those excellent little PD puzzle games that looks fairly boring but once you start playing is highly addictive. The plot is simple. Guide a bouncy ball along an array of platforms on the screen, moving the ball over any dark blue platforms to turn them light blue.

The graphics are very simple – in fact the game runs at full speed on an ARM2, but that does nothing to affect the playability. The early levels are relatively easy, but the platforms soon get smaller and smaller and if you fall off the bottom of the screen you lose a life. Extra obstacles become present in the later levels. Grey blocks are deadly on contact and disappearing platforms and bouncy springs provide a further puzzle element.

All in all it's a nice combination of arcade and puzzle elements. My only complaint is the lack of any kind of password system. Going right back to the start is a real pain.

As I mentioned above, *Bouncy* runs perfectly on an ARM2 machine, but if you have anything faster you'll need to disable your cache or use some kind of frame rate skip program like Paradise's *VSyncx2* on the RiscPC. *Bouncy* can be located on the October APDL subs disc, which is highly recommended.

Infinity



Infinity is the latest demo release from Reactive, the crew formerly known as Origami. Following their *Awakening* release at Revelation 97, the team have put together another scene demo. While it features some nice coding, it is a little dogged by the lack of any proper design and graphics.

The demo begins with a textured tunnel manipulated with masking and palette effects, followed by some environment mapping on a large infinity shape.

The frame rate is a little slow, even on a StrongARM machine, which tends to make the demo drag. Another problem are the still graphics used for backgrounds or textures. The quality could have been better considering the VIDC20's graphic capabilities. Other effects include morphing with various lighting models and a spaceship flying over a voxel landscape.

With a good artist and more effort on the design they could certainly go far. The group's Web pages can be found at: http://homepages.enterprise.net/gdavid/origarmi/index.html

Window power

On the odd occasion I'm forced to work on a PC, I never fail to be frustrated by the unfriendliness of the user interface, whether it's Windows 3.1 or the supposedly better Windows 95. A particular note of annoyance on PC systems has been reinforced by a rather silly, yet telling, Acorn based utility from Joe Oldak. *Window Count*, or *WC*, gives a readout of the number of windows currently open on the desktop.

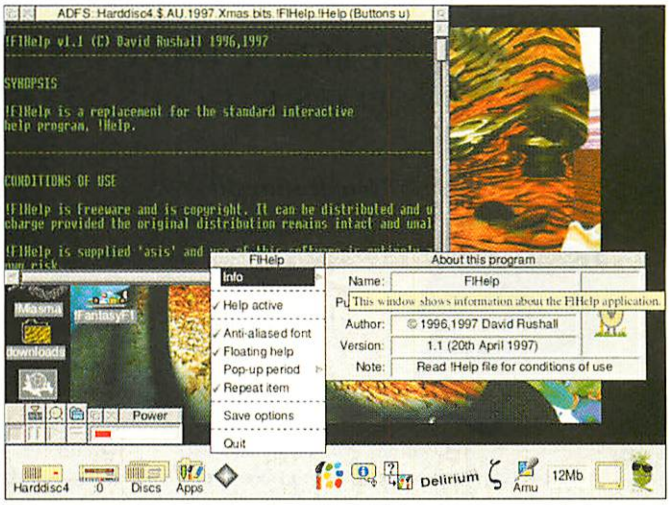
Since installing it in my boot sequence I've discovered that I regularly have nearly 30 windows open while editing graphics which I frequently drag and drop between packages like *Photodesk*, *Paint* and *ChangeFSI*. On the PC it's something of an accomplishment if you manage to reach double figures, and it's definitely not a good idea if you aren't a frequent user of the save file button.

Although ultimately pointless, it's kind of fun to have a windows power bar on your desktop. For those people who hate using the close window button, check out *WC* which can be found on the HENSA ftp site. I use the custom version which displays just the power bar.

FlHelp

FlHelp by David Rushall is an excellent replacement for Acorn's *Help* application. Rather than displaying help text in an annoying window that remains on the screen all the time, *FlHelp* uses floating pop-up windows to show the text.

It's nicely configurable and very easy-to-use – an ideal aid for the beginner. A couple of bug fixes are needed to deal with the text being anti-aliased white onto a cream background and the odd bit of corruption of the help text. *FlHelp* can be found alongside David's other PD software on his website at: http://www.piecafe.demon.co.uk/



TransGraphics

Commercial company Innovative Media Solutions have made an interesting and much welcome move into the world of shareware by releasing a number of foreign graphic file loaders for applications like *ArtWorks*, *Impression* and *Ovation Pro*.

Installation is very simple and the running software allows you to drag GIFs, BMPs and a range of other graphics files straight into your DTP documents. It's great to see IMS releasing software like this as shareware but, as much as I'd like to use nothing but praise, I really have to criticise the massive registration fee of £15 + VAT.

This is shareware software at commercial prices and I can't really see it helping the sales when the function of the software being sold can be duplicated (albeit in a more drag and drop intensive way) with *ChangeFSI*. Having said that, registration does provide you with copies of *TransPCD* (PhotoCD image conversion) and the bitmap filer and slideshow program, *Darkroom 2*.

To register for the TransGraphics Loaders send a cheque for £15 + VAT (£17.62) to IMS Ltd, Box Bush Farm, West Wick, Weston-super-Mare, BS24 7TF.

Re: Feedback

Thanks for all the feedback following my comments in the November issue. As I mentioned back then, I've been a little concerned about covering too much demo and graphics news, but all the readers out there seem to be as keen as myself at supporting these aspects of the PD scene. It's great to hear such enthusiasm for PD software, and I'll be continuing to support these areas while providing plenty of news on the rest of the scene.

One point raised was the coverage of old and new Acorn machines. Much of the recent demo coverage has been StrongARM RiscPC oriented. The main reason for this is simply the fact that the recent demo releases are all aimed at the StrongARM with little or no releases for older machines.

At the same time I feel its important to keep things moving forward by pushing the new technology that Acorn is giving us. This is especially important in the PD scene where use of the new hardware often lags behind the speed with which commercial developers provide support. But rest assured, I'll still be supporting the older machines when software is released for them (check the review of *Bouncy* elsewhere in the column).

As always keep sending your comments and suggestions to me.

Recommended PD Libraries

- APDL, 39 Knighton Park Road, Sydenham, London SE26 5RN
- Arch Angel PD, PO Box 41, Exeter EX4 3EN
- ARM Club PD Library, Freepost ND6573, London N12 0BR
- Beebware PD, 83 Forrest Road, Huncote, Leicester LE9 3BH
- Five Star Marketing, 4 Shepherds Walk, Bushey, Hertfordshire WD2 1LZ
- Naked PD, 'Fayence', Fulford Road, Stoke-on-Trent, Staffs ST11 9QT
- The Datafile, Willoughby House, 89 Woodville Road, Boston PE21 8BB

Zap Boost

Following my mention of *StrongHelp* and the invaluable *StrongHelp* manuals on programming syntax, a friend pointed out that it's possible to set up a kind of hotlink function that instantly brings up information from the *StrongHelp* manuals for keywords highlighted in *Zap* (as is possible from *StrongEd*).

This is a perfect example of the range of rather clever features and extensions hidden away beneath the exterior interface of *Zap* and the *Strong* range of applications. This tasty little patch is provided by Martin Ebourne's third-party module supplied alongside the latest version of *Zap*. Simply check the Help file in the !Zap.3rdparty.Ebourne directory for full details.

Whispering Jam

This year's Yelling Jam party was a bit of a disappointment with only one tiny release on the Acorn format from Icebird. Let's hope next year's Revelation competition can bring things back up to speed on the demo front.

PD competition

Dave Holden of APDL is currently seeking entries for his next PD and shareware competition which has been a great success in previous years. If you'd like to enter a piece of software you've written and compete for £200 worth of prizes, send a disc to APDL for a copy of the entry instructions, or alternatively check the website at http://www.apdl.co.uk Contact APDL at 39 Knighton Park Road, London, SE26 5RN.

Contacting me

You can contact the PD page by writing to me, Paul Wheatley, at *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP. Or preferably, by e-mail to aupdpage@idg.co.uk.

OVATION Pro

THE PROFESSIONAL DESKTOP PUBLISHER



New features!!!

- Colour palette
- Definable multi-row button bar
- Style palette
- Instant highlight of misspelt words

Package includes:

- 300 page reference guide
- Step-by-step tutorial
- Quick reference card
- 50 high-quality fonts
- Selection of clipart
- Desktop Thesaurus
- Bubble help

Ovation Pro combines fast, responsive word processing with state-of-the-art page layout features to deliver the ultimate desktop publishing system. Packed with a staggering range of features – many available on the Acorn platform for the first time – Ovation Pro opens up a whole new world of document design. At last you can flow text inside and outside irregular frames or rotate them to any angle – in both cases the text remaining fully editable. Even with such a vast range of features Ovation Pro is still easy-to-use, thanks to its superb user interface.

- Definable Button Bar
- Irregular frames with Bézier curves
- Rotated text frames with editable text
- Multi-step Undo & Redo
- Drag & Drop for text and objects
- Drag & Drop between documents
- Named colours & definable colour charts
- Automatic drop caps
- Justification with letter spacing
- Multi-column frames
- Frames with skew & rounded corners
- Vertical justification
- Frame borders and drop shadows
- Straight and curved line drawing
- Auto flow around irregular graphics
- Easy-to-use master pages
- Context sensitive info palette
- Reads Ovation, RTF, DDF, Artworks files
- Macro handling and script language

Ovation Pro is fully expandable using extension modules called Applets. Over 30 of these are supplied, including applets to automatically insert ligatures, generate fractions and expand abbreviations.

Ovation Pro costs £193.88

Upgrade from Ovation £116.33

Upgrade from another desktop publisher or word processor £139.83*

*includes Style, Publisher, EasiWriter, TechWriter, PenDown+ and Advance. Site licences and upgrades are available – please phone for details. To upgrade you must return your original program disc with payment (discs will be returned).

NEW!

Colour Supplement

COLOUR SUPPLEMENT

This fully integrated extension allows professional designers to produce output for high quality commercial litho printing. Both full colour and spot colour separations are supported, with options to view separations on-screen and to control PostScript screen angles, frequency etc.

Also included is a powerful image processing facility which allows brightness, contrast and gamma levels of images to be adjusted using slider controls. Custom contrast settings may be defined on the colour map, and images can be converted to duotones.

Ovation Pro Colour Supplement costs £57.58

Note that all registered users who have bought Ovation Pro before May 1st 1997 will be sent the colour supplement free-of-charge.

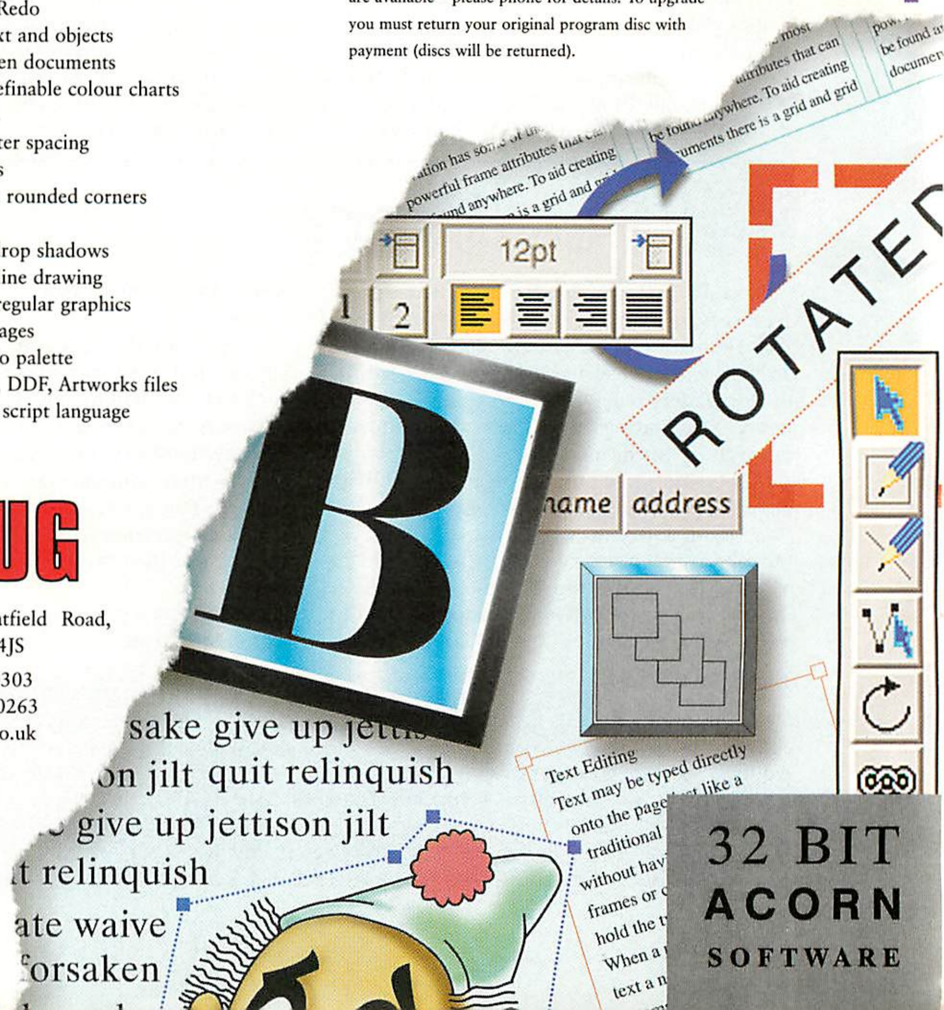
For more information on Ovation Pro, including up-to-date news, specifications, latest applets etc., why not visit our web site at: http://www.beebug.com

BEEBUG

Beebug Ltd. 117 Hatfield Road, St.Albans, Herts. AL1 4JS

Tel: +44 (0) 1727 840303
Fax: +44 (0) 1727 860263
Email: sales@beebug.co.uk

All prices include VAT, but please add £3.50 carriage. Airmail will be charged at cost to overseas customers.



32 BIT ACORN SOFTWARE

Christmas prezzies

This is the first time a Business Page has appeared in the Xmas issue and I would like to wish all readers a happy Christmas and a prosperous New Year. It is at this time of year that thoughts turn to the rampant consumerism with which the season has unfortunately become associated. The question arises about what to buy, either as presents for others, or for splashing out and treating yourself.

Worry not, this year I have prepared my top 10 gifts for the Acorn user who has not quite got everything. The list is *not* a ranking of most to least useful but any items in my top 10 should enable you to be more productive in the New Year.

You can also relax and enjoy your new acquisition without having to worry about the fact that it is only three more years until the fateful day which awaits all PC owners in the year 2000. I am not gloating but it does seem to me that there is a God and He is just.

As befits the Business Page, each item can also be justified in terms not only of enjoyment but of productivity. You may not agree with my list and if you have any additions please e-mail me as I would be interested to see what you think.

My list is heavy on hardware and very light on software, this reflects the poor state of the software scene at present. Some of the items have been featured on various Business Pages over the page 12 months and all come with my personal seal of approval.

Unless there is only one supplier or it is a supplier I particularly recommend then I have not listed one. Look through the ads in the magazine and you should find a supplier. Similarly any prices are guides as hardware prices fluctuate wildly at this time of year and the death of RRP (Recommended Retail Pricing) means that street prices are often at variance with advertised prices anyway. Shop around and haggle is my advice. I have tried to include items at a range of prices to suit all pockets.

Software update

In the November issue I asked you to nominate good software which has been let down by either poor support or which has simply past its sell-by date and needs further development. The list is now quite considerable and continues to grow every day. The aim of this is to indicate to software houses that poor support is not good enough and that there exists a market for good software. It is intended to help software houses and is in many ways a form of market research.

The list will stay open for another month and I will include the full list on the February Business Page. If you have any other programs you wish to include then please e-mail me.

Contacting me

You can contact me, Mike Tomkinson, by post at the usual *Acorn User* address or by dropping me an e-mail at:
aubizniz@idg.co.uk

TOP 10 TOP 10 TOP 10 TOP 10 TOP 10 TOP 10 TOP 10 TOP 10 TOP 10 TOP 10 TOP 10 TOP 10

1 The Zip drive (Featured on the November Issue Business Page). Street price as low as £80 but expect to pay more if bought with an Acorn Driver.



2 An Ink/Bubble Jet printer Street price as low as £130. Anyone still using a dot-matrix printer should be ashamed of themselves, unless they still have a *need* for a dot-matrix, i.e., multi-part paper printing. The Canon range is good but others speak highly of Epson and Hewlett-Packard printers. The major downside is the high cost of cartridges.

3 A new mouse mat Price £10 from Norwich Computer Services (Tel: 01603 766592). More exactly a Precise Mousing Surface is what you want. These little sheets of sticky plastic really do make an enormous difference to the mouse and ultimately to you as the user.

4 A decent chair Street price around £50 second-hand. Look after yourself by providing a chair which is both comfortable and offers the support to your back that it requires. Second-hand office supplies shops usually have a good range of gas-lift operators chairs. With or without arms is a matter of personal preference, but the back of the chair should be adjustable for height and rake.

5 A big monitor Size is everything and the bigger the screen the better. 14in monitors are now becoming non-standard and being replaced by 15in and 17in.

Most people buy an Acorn with a monitor not realising that there are alternatives.



6 RAM RAM prices are currently very low and may go even lower, although the laws of supply and demand may mean a temporary increase when the RAM hungry Windows 98 finally appears. Now is therefore a good time to buy – 8 Meg 72 pin SIMMS can be had for only £20 (plus VAT) while a 32 Meg SIMM is only £80 (plus VAT). Prices are approximate as this is an extremely volatile area of pricing.

7 A modem The Internet is massively hyped but can be very useful, whereas e-mail is rapidly becoming essential. The costs are difficult to quantify as you will need an Internet Service Provider (ISP) and there is also the high cost of local phone calls in this country. Having said that, sending letters via snail-mail is not getting any cheaper or faster. Go for it and get online.

8 A7000 to A7000+ upgrade In these days of StrongARM and Risc PC II, it is easy to forget the underrated A7000. The A7000+ is faster and includes RISC OS 3.7. In resolution it can match a Risc PC 700 with 1Meg of VRAM. A number of dealers are offering a complete old motherboard out/new motherboard in service for around £250 (plus VAT). Bear in mind that the upgrade does not include a new bigger drive.

9 Digital Camera Guide price for Casio QV100 £399 (plus VAT). These cameras have some way to go before the quality approaches that available from traditional cameras, but as a method of capturing digital images they are hard to beat. Their uses are varied, but many people use them as the digital equivalent of a Polaroid for instant snaps without the fuss of developing and processing.

10 Task Force Clip Art CD-ROM Akalat Publishing (Tel: 01582 881614) £29.95 plus £3.00 p&p. The only software entry on this year's chart but a good



one. Over 10,000 high-quality vector graphic images with a colour printed reference book. The clips are PC format (boo!) but the CD is supplied with conversion software to !Draw format. This is by far the best collection around at present and has not failed to provide me with a required image so far.

Happy shopping.

portables

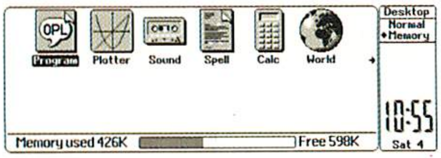
Organise your Pocket Book...

'You purchase your Pocket Book to help you organise your life but find that very soon you need something to help you organise your Pocket Book.' A familiar scenario? If so, read on, as all the software you require is included in the operating system.

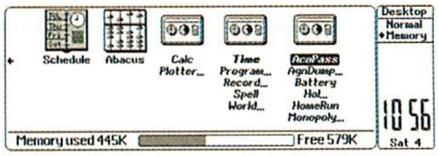
There is a great deal of software available for the Pocket Book but each application requires its own icon and space in the desktop view. If you have more than about 10 applications on your Pocket Book it becomes very annoying scrolling from one side of the list to the other. The solution to this problem is to use groups.

The groups feature on the Pocket Book is similar to the idea used in Windows 3.1, and allows you to place various applications in different groups.

The groups are displayed on the main desktop screen as shown in the screenshot



The desktop screen before...



...and after being grouped

and from this screen you can easily see which applications and files are active.

To create a group, choose the 'Create new group' (*Acorn-G*) in the special menu on the desktop screen. When the dialogue box appears, type in the name of the group you wish to create and then press enter. The group will then appear on the system screen, to open it up press the space bar.

Once the group has opened you need to install the various applications you wish it to contain. This is done using the *Acorn-I* or *Acorn-J* options. When complete, close the group by pressing the space bar and then remove the applications from the main system screen that you have placed within the group. To remove an application press *Acorn-/* while on top of the application you wish to remove.

That is really all there is to it. You can create as many groups as required leading to a much more organised system screen. Groups can also have their own icon, many of which are available in the PD, making your Pocket Book even more organised.

Pocket websites

As with the Web itself, the number of Psion related websites seems to be growing at an ever increasing rate. Here is the low-down on some of the newer or recently updated Psion related websites.

Although not new, Psion's website seems to change almost daily and now has a downloads section, a technical support questions database, a comprehensive list of links as well as all the latest Psion news and a comprehensive product guide. If you haven't looked at this site for a while I'd advise you to take a look at *http://www.psion.com/*

If you want to keep up-to-date with the Psion world, the PMN website is for you. You'll find all the latest news, links as well as a library of shareware programs which are available to download. Point your browser at *http://www.pmn.co.uk/*

The Psioneer Web Ring is a selection of Psion-related websites all linked together. The sites contain various items, some with software, others with hints and tips or faqs. From each site you can move to another within the ring. It's a great way of finding out what's available on the Web for Psion and Pocket Book users. Although there is no actual web address for the ring itself a good starting point is *http://www.gmrsystems.demon.co.uk/turk/psion.html*

Other sites worth checking out include 3-Lib's at *http://3lib.ukonline.co.uk/*, Softbase at *http://www.softbase.co.uk/psion/* and Jason Kneen's Psion site at *http://www.kneen.demon.co.uk/*

Worldwide communications

Global travellers can now link their Psion/Acorn Pocket Book to a satellite phone and use it to send and receive faxes and e-mails, anywhere in the world.

The solution is provided by Inmarsat who are specialists in international mobile communications. The satellite phone is a digital device which plugs straight into the Pocket Book without any need for a modem. For more details check out their website at *http://www.inmarsat.org/*

Light up your Pocket Book

A solution to the age old problem of using your Pocket Book in the dark has finally been found. Whereas Psion users can now choose to go for a backlit model, us Pocket Book users don't get that luxury. Worry not – ASF Associates have come up with the answer in the form of the mini PCL 3 palmtop computer light.

The light fits underneath your Pocket Book and is collapsible when not in use. The unit is powered by three AA batteries and can also be powered by a mains adaptor. The light is supplied with a diffusion filter, a carry case and a spare bulb. For more information check out ASF's web site at *http://www.std.com/asf1/*

Series 5 rumours

According to rumours flying about on the Internet, the Psion Series 5 is a bug-ridden machine released before it had been fully tested.

Although I'm sure most of the bugs existed at one point or another I am only able to replicate one of them on my own Series 5 which contains a slightly later OS release. The bug that still exists is incredibly irritating as no matter what page-range you specify to print the whole document ends up flying out of the printer, wasting time and money. I only hope Psion sort this problem out in the near future.

To counteract the rumours, Psion announced they will release a ROM update sometime next year which will fix all the reported bugs as well as providing several new features.

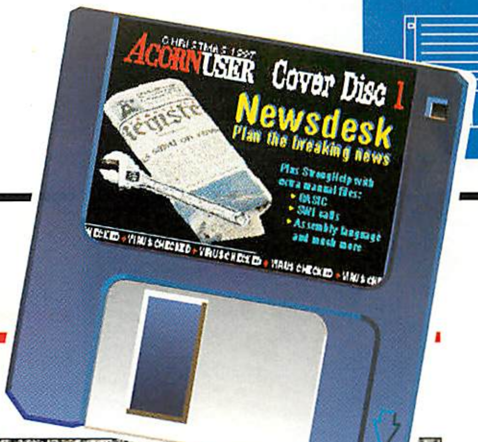
All well and good, but Psion want to charge about £50 for this, which I consider a bit steep for what many will see as simply a bug fix. Maybe by the time it's released Psion will change their mind...

Having said that, in my opinion the S5 is a superb machine and having owned one now for three months I have nothing but praise for it.

Psion UK plc
0990 143050

Contacting me

You can contact the Portables page by writing to me, Mark Taylor at *Acorn User*, Media House, Adlington Park, Macclesfield SK10 4NP, or by e-mail to auport@idg.co.uk



Newsdesk

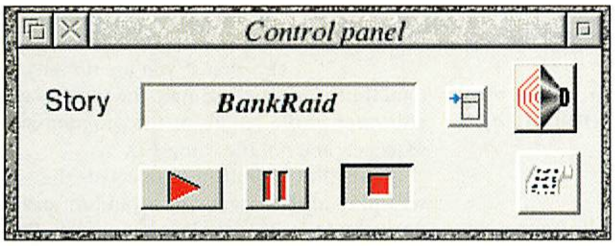
Bob Harding, Al Knight, Les Ruddick & Neil Sherman

School newsdays are great fun, and useful for teaching the necessities of up-to-the-minute reporting. However, sometimes you don't want to go the whole hog of a newsday – this is where *!Newsdesk* can be a boon.

Very simple in theory, *!Newsdesk* loads files after certain time delays. Although initially you could expect just to have text files, all files are loaded using the normal *Filer_Run* command so you can use any type, the example has a draw file.

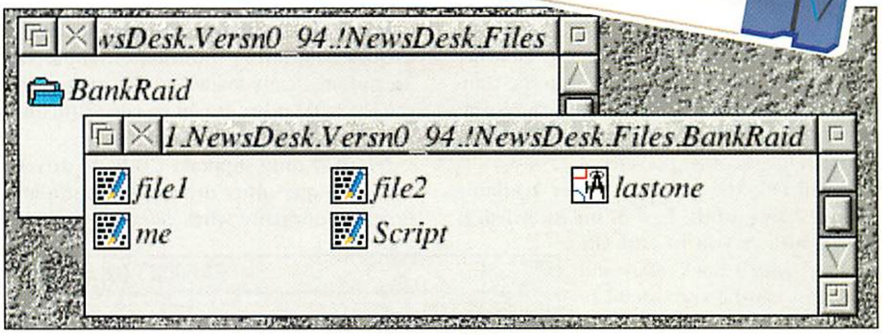
Quick start

To use the example given, double-click on the icon to load the program then click Select on the iconbar icon to open the Control Panel. Click on the menu icon in the Control Panel and select the story you want – the program is provided with a BankRaid story.



Now click on the Play icon to start and the files will begin to appear on the screen after a short delay – the delays are set by the script file.

Creating your own stories is very simple: Inside the *!Newsdesk* application is a Files directory, in that you should create a directory to hold the parts of your story. This directory must contain a file called Script which holds the instructions about which files to display at which intervals.



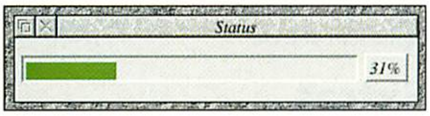
Each line of the Script file can be a comment, which has a | symbol at the start of the line; it can be a display line which contains the name of the file and the delay period after which it should be displayed; and the final line is .END. the periods are compulsory. The delay is in minutes, so 0.5 is 30 seconds.

Normal ADFS limitations only allow 77 files per directory which means the Script file plus 76 story files. However this should be plenty for normal operation. If it isn't you may be able to get around it by using an Obey file to execute a series of Filer_Run commands – or any other command.

By using picture files, either draw or sprite, it's possible to give young journalists something more to use to layout their news stories. More than one *!Newsdesk* can be run at the same time if you want to add the complexity of more than one simultaneous story.

Lessons have time limits so *!Newsdesk* has the ability to save at a given position in the story and continue from that point when the file is reloaded. There is a sound option which can be switched off, and another hidden button – revealed by clicking the right icon on the title bar – will type the current date and time into the window that currently has the text cursor. Off the iconbar icon menu is a status bar which shows how far through the story the program is.

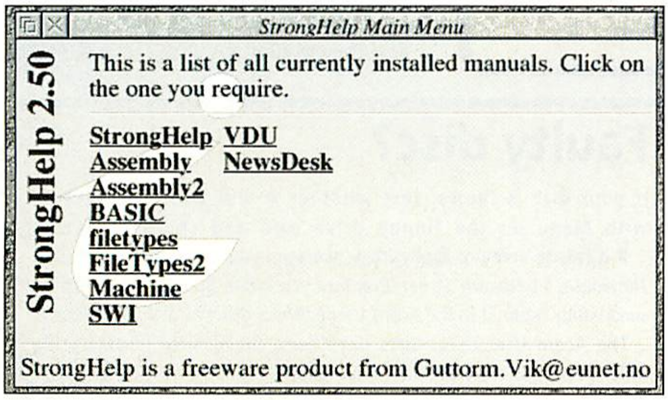




StrongHelp 2.50

Guttorm Vik

Since the *Newsdesk* application has a *StrongHelp* file, we've taken this opportunity to include the latest version of *!StrongHelp* plus a selection of manuals to go with it covering much of the operation of RISC OS computers. To access them load *!StrongHelp* and click on its iconbar icon, a full list of manuals will appear.



StrongHelp – This manual covers the operation of StrongHelp and how to create your own manuals.

Assembly – ARM assembly code instructions with a very terse description of the way they are laid out.

Assembly2 – Description of every instruction plus how to program Assembly code from BASIC. Very useful.

BASIC – Another terse manual, provides a minimum description of all BASIC commands – but at least it's all of them.

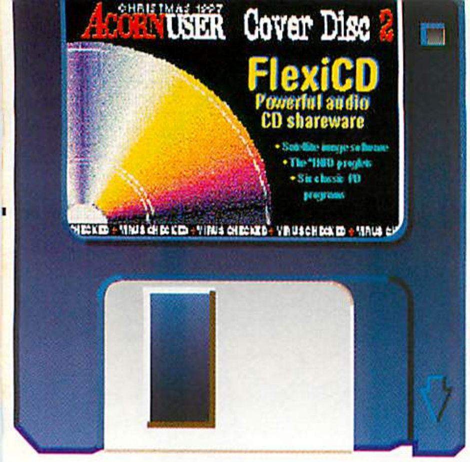
FileTypes – A brief description of some of the filetypes available.

FileTypes2 – A thorough listing of the major filetypes, not exhaustive but one of the best.

Machine – Some hardware details of the pre-Risc PC machines.

SWI – Terse but useful description of SWIs for important and not-so-important modules.

VDU – Use of VDU codes is definitely deprecated nowadays but here's a list of them anyway, some are described in detail.



cover disc

FlexiCD

Andrew Booker

I know what you're thinking: *Not another desktop CD player*. Well, apart from the standard playing and track naming facilities, here are six main reasons to use *!FlexiCD* as opposed to any other player:

!FlexiCD is the only CD player available for the Acorn (to the best of my knowledge) which allows you to edit the times at which tracks start and end. This can be very useful in many different situations:

• It allows you to edit out any long silences between songs.

• On some CDs (particularly live recordings), the start of tracks does not correspond exactly to the start of the songs. You can therefore adjust the timings accordingly.

• On some CDs, an extra song is provided at the end of the last track (sometimes after a long silence). With *!FlexiCD*, you can split these tracks up into two different tracks, losing the long silence and allowing you to play the extra track immediately.

When I started to write *!FlexiCD*, it was going to be the only one available for the Acorn that opened the audio CD controller if you clicked on the normal CDFS icon when there was an audio CD in the drive, rather than putting an extra icon on the icon bar. A couple of other programs are now available with this feature.

!FlexiCD only requires 38K to run (once all the track names and other similar details have been set up), making it the least memory hungry CD player available for the Acorn that I know of.

The program will continue to control CDs (even in programmed or shuffle play) if you leave the desktop for any reason. *!FlexiCD* will handle mixed data/audio CDs in a sensible way.

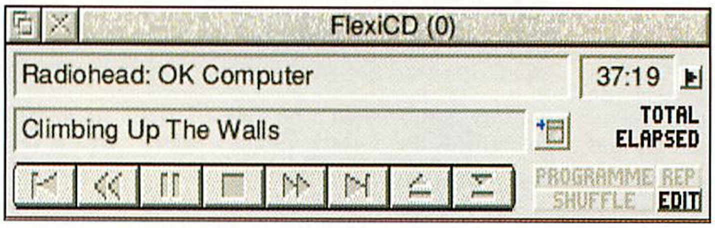
And, perhaps least importantly, *!FlexiCD* does not suffer from the 77 CD limit that some other players do.

System requirements

!FlexiCD will run on any Archimedes or Risc PC that is fitted with RISC OS 3.10 or later. It has only been tested with CDFS 2.21, but should be OK with later versions. I do not know if it will function correctly with earlier versions of CDFS.

It does not require a hard disc to run, but as files containing information about CDs are automatically loaded as CDs are put into the CD-ROM drive, it will be very difficult to use if you do not have a hard disc.

!FlexiCD only supports CD-ROM drives 0 to 3, and any other drives will continue to function normally when *!FlexiCD* is loaded.



Also note that it will not run from a read-only media, such as a CD-ROM, or a read-only archive.

Getting started

To load *!FlexiCD*, double-click its icon as normal (or add it to your boot sequence). Nothing will appear to happen in the desktop, but you can check that it has loaded by looking at the list in the Task Manager's display, it will be at the bottom of the Module tasks section.

Now place an audio CD in a CD-ROM drive between 0 and 3, and click on that drive's icon on the iconbar. After a short delay, a window will appear in the bottom left of the screen, just above the iconbar.

Ignoring most of the icons in this window for the moment, and just looking at the bottom left of the window, you will see the standard controls that you would expect with any CD player. From left to right, these are previous track, rewind, play, stop, fast forward, next track, open and close.

Clicking on these will cause the appropriate action to occur; you might like to try these if you want to listen to the CD. Note that clicking on play will cause it to change to a pause button, allowing you to pause the CD if you want to.

At the bottom right of the window is a group of four icons marked Programme, Shuffle, Rep and Edit. If the Rep button is selected, the CD will repeat from the start when the end of the disc is reached.

With the Programme button selected, the CD will play a pre-programmed sequence of tracks, instead of playing all the tracks from start to finish. Initially, the programmed sequence is all the tracks on the CD. Note that Programme can be used in conjunction with the Repeat button. Note also that if you are displaying total time elapsed/remaining, the time shown will refer to the length of the programmed sequence, and not the whole CD.

If the Shuffle button is selected, the CD will play all the tracks in a random order until the Stop icon is clicked on. Note that the Repeat button will be shaded if Shuffle is selected – repeating a shuffle play is not possible. Note also that any times displayed will always refer to the current track, regardless of whether the time displayed is total or track time.

Full details on how to use *FlexiCD* are contained in the !Help file for the program, including naming tracks and CDs, and coping with tracks that have long quiet periods at the start and end.

Regular items

•Run the Risc – Mike Cook's weather satellite decoding software

•All the *INFO programs

Extras

• ImageFree – find out the free space in image files
• MakeJPEG – software and information on the creation of JPEG files
• NetPlex – serve HTML from your Acorn machine
• PsionFS – convert Psion MBM files to sprites, automatically
• SocketFS – handle Internet sockets just as if they're files

Disc information

The software on these discs has been compressed using *ArcFS 2* from VTi, and are opened by running a copy of *ArcFS* then double-clicking on the archive to open it. There is a copy of *ArcFS* on each disc.

Most software will run straight from the archive, but some programs may need to be copied out of the archive before being run, uncompressing them in the process. Any program that saves a file to disc, for instance, will be unable to do so into the archives on the disc.

Faulty disc?

If your disc is faulty, test whether it will verify by clicking with Menu on the floppy drive icon and choosing Verify.

If it fails to verify or is physically damaged you should return it to *TIB, TIB House, 11 Edward Street, Bradford, Yorkshire BD4 7BH.* If it verifies successfully return it to the *Acorn User* editorial office at the usual address.

The *Acorn User* cover discs have been checked for viruses using *Killer* version 2.700 from Pineapple Software.



Manuscript paper that thinks!

A **NEW VERSION** of the world-famous SIBELIUS music programs is now available – with lots of new features, including revolutionary support for **music scanning.**

And as an introductory special offer we've got new lower prices, too – such as Sibelius 6 now just **£99** (was £179)!

The Sibelius programs need no introduction – suffice to say that they are the most highly-acclaimed music software on any computer, used by such famous names as the **Royal Academy of Music**, **Royal College of Music**, **BBC**, **Yehudi Menuhin School**, **National Theatre**, **Oxford University** and thousands of others worldwide.

Sibelius 7 is even used by top Hollywood composers such as Lalo Schifrin (**Mission Impossible**) and Trevor Jones (**Cliffhanger**, **Last of the Mohicans**). Blockbuster films scored using Sibelius 7 include **Richard III**, **Loch Ness** and **G.I. Jane**.

To find out more about the Sibelius programs, contact your local Acorn dealer today, or phone Sibelius Software on **01223 302765** for an information pack and free demonstration disk.



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Sibelius 7 **£888**
State-of-the-art professional version

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Was £495. Site licence £799

Sibelius 6 **NOW JUST £99**
Was £179. Site licences from £169

Junior Sibelius! **£49**
Site licences from £89

"This extraordinary computer program has changed the music world forever"
– ***The Times*** editorial

"In a totally different league from anything else" – **Royal Academy of Music**

"As easy to use as pen and ink"
– **John Rutter** (choral composer)

"Dramatically reduces the time it takes to compose a piece of music"
– ***Financial Times***

"Winner" – **British Computer Society Awards** for best software 1996

"Sibelius can notate, print and play a musical score at a pace even more rapid than Mozart at his most fecund... Imagine what wonders Bach could have worked with such technology" – ***The Times*** editorial

"The biggest surprise with Sibelius is how simple it is to learn and use effectively... the most comprehensive music package imaginable"
– ***Times Educational Supplement***

"There are countless educational possibilities for this software"
– ***Music Teacher*** magazine

"Instantly captured the imagination of staff and pupils alike" – Paul McMasters, Head of Computing, **Winchester College**

NEW FEATURES

- **Music scanning** – with the new Optical Manuscript program (£249) developed by Neurotron Software, you can scan printed music into Sibelius to produce arrangements and transpositions at amazing speed
- **Spots unplayable notes** – for every type of instrument!
- Many new **MIDI & playback** features
- **Manuscript font** – looks just like handwritten music

...and lots, lots more!

Prices exclude VAT and delivery, and may vary or change. Details of site licences & bundles available on request. There is no new version of Junior Sibelius. E&OE

Hard connections

Stuart Bell compares the current crop of SCSI cards

The impetus for this comparative test of SCSI cards was the announcement of the new Storm DMA32 card from Castle Technology, but no sooner had that appeared than Eesox added a second newcomer. These two join familiar stalwarts in the shape of the Cumana and Alsystems' Power-tec SCSI2 cards and, finally, the Connect32 interface from ACE in Germany.

That would make five SCSI2 cards under review, were it not for the fact that the test period coincided with internal changes at Cumana, which meant they were unable to supply a card for testing. The aim of the review was to evaluate those cards currently available, the criteria being speed, reliability, compatibility, the quality of the software and manual, ease of use, and support from the manufacturer.

AlSystems Power-tec

Of those cards under test, the Power-tec interface is the most mature product, having been around for several years. The current card is a generic SCSI card, which can be fitted with appropriate components to produce a SCSI1, 2 or 3 card. The second of these was tested. A SCSI3 version was announced as this review was being prepared.

The card itself contains a large flash ROM for the main SCSI software, which can be upgraded from AlSystem's website. *!PowerMgr* is the configuration application and is the most complete of all the programs supplied. Configuration may be express – comparable to Eesox's system of automatic assignment of drive numbers – or it may be *advanced*, in which case every conceivable option can be set.

The layout is logical, the windows are clear, and the user is cautioned before taking irrevocable steps. So confident are AlSystems that earlier DMA problems have been eradicated that they insisted on loaning me a four slice Risc PC with an eight slot backplane and 10 SCSI devices driven by two Power-te cards.

AlSystems wanted to emphasize the flexibility of their interface, which drove Syquests, a Jaz drive, a Zip drive, a magneto-optical drive, a CD-ROM writer and a tape streamer without problem, as well as various hard discs. Neither the Castle nor the Eesox cards had any problems with any of these devices either. The Power-tec interface was also tested in my Risc PC, and the other cards were also tested in their machine. When installed, I noticed that it seemed to have reset my *!Boot* parameters, with things such as mouse speed and desktop font returned to their default values – it was unclear what exactly had caused this.

The Power-tec's handling of SCSI devices is very powerful, with a distinction drawn between ejecting a removable disc and dismounting a partition on such discs. Empty drives have their icons minimised, with the caption in grey. In common with the Eesox card, data can be copied between, for example, two Syquest cartridges by swapping them as prompted, just as with floppies. The 100-page manual is excellent, again with a good section on termination and an abundance of screen shots. Uniquely (since only AlSystems supply backup software), the Power-tec card worked well with a DAT tape streamer.

AlSystems offer upgrades via their website, and a free e-mail mailing list for the Power-tec card. The warranty is one year, after which technical support costs £20 a year.

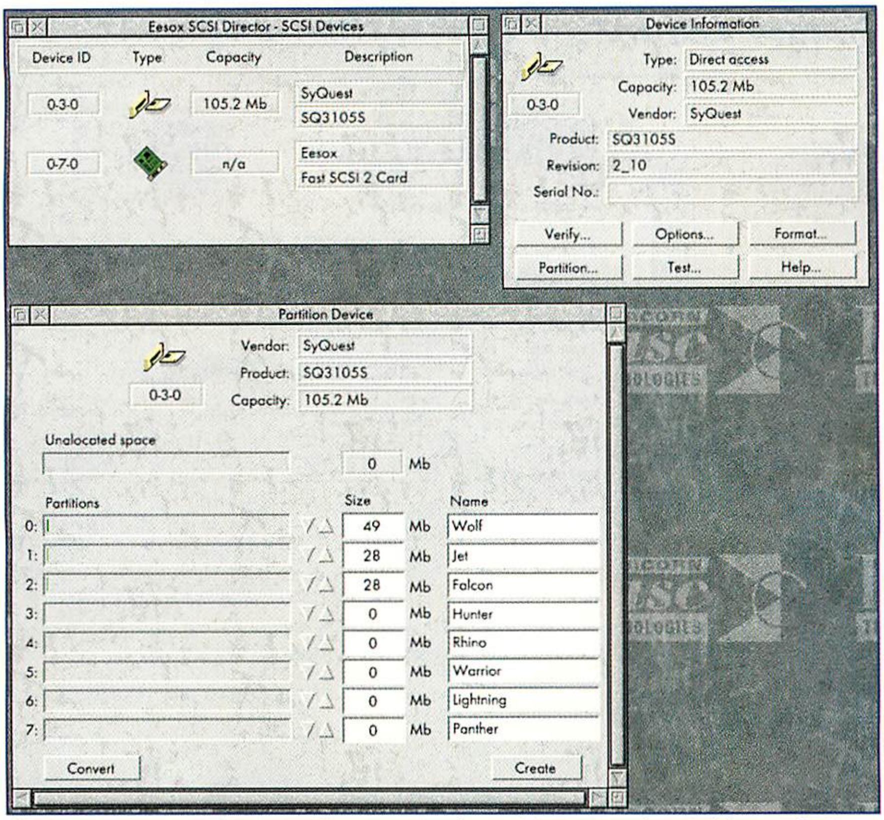
Castle DMA card

The Castle Technology Storm DMA32 card is a development of their earlier 16-bit interface which did not support DMA and which, as a consequence, is limited to a 2Mb/sec transfer rate. That card is the one that I have used for two years, and with which I have been very happy. However, one consequence of this is that the manual endangers clarity by referring to Castle's range of three SCSI cards.

The manual supplied was dated May 1996, and was accompanied by several A4 sheets relating to the new DMA card and enhancements to the !Setup management software, in which the *icon management* function is much improved on earlier releases. Now the new interface has been completed, Castle need to turn their attention to integrating their documentation.

In use, the Castle card worked reliably, save for the disaster mentioned in the con-





The Eesox *!SDirector* application, with a suggestion for partition names taken straight out of TV's Gladiators – Star Trek and Dad's Army are among other options

clusions below. It wasn't happy with one fully populated SCSI bus configuration which I tried, although it worked fine with each individual device. The addition of software-controlled termination is a welcome development on earlier cards. Speed was almost identical to the Eesox card, and a tad slower than the Connect32 interface. Unlike the Eesox and Power-tec cards, copying between exchangeable discs using the same drive is not possible. That its *!Setup* software will not even run if it detects an unterminated SCSI bus is a neat way of removing one likely source of problems. On board termination can then be set by a star command after pressing F12.

Castle offer a warranty on hardware and software, including a *corrective support service, reports of errors and patches* for as long as you own the card. Software support is via their web site, or else by floppy disc. While the Acorn newsgroups on the Internet are a hotbed for those of us who complain at the slightest provocation, I have never seen Castle's support for their products being criticised – a major consideration when evaluating relatively complex devices like a SCSI subsystem. Castle are offering a lower upgrade price until the end of 1997, and alternatively offer a 25 per cent reduction on the interface when other SCSI devices are purchased.

Connect 32

Originating from ACE (Acorn Computer Enterprises) in Dortmund, Germany, its relatively low profile in the UK market marks it out as somewhat of an unknown quantity. ACE make great play of it implementing full 32-bit (as opposed to 16-bit) DMA transfers. Certainly, it was the fastest card on some tests, but not by a significant margin. Software-controlled termination is again implemented.

The manual 'seemed' very comprehensive. I write 'seemed' because, as the card for review came directly from Germany, the manual was in German. ACE asked me to obtain an English manual from Q-Tec – their UK distributors. After several e-mails, a fax and a telephone call I spoke to a gentleman at Q-Tec who assured me that Q-Tec are no longer UK distributors for the Connect32 card.

ACE claim that the Connect32 board will work with all SCSI devices except tape streamers. However, I was unable to get two different 105Mb Syquest drives working reliably with the interface. It would recognise them intermittently, but steadfastly refused to bring them onto the iconbar. Sometimes, the *!SMG* application would find the drive, whereas **Devices* would not, and then five minutes later the reverse would be true. I encountered my system periodically hanging, both on start-up with the Connect32 card installed and also during two overnight soak tests – something experienced with no other card.

At this point, with ACE and Q-Tec blatantly contradicting themselves, there being no sign of an English manual (ACE having lost their soft-copy due to a system failure) and the board hanging from time to time, I abandoned my exhaustive testing of the Connect32 card, believing that my time would be better spent on evaluating the other interfaces.

Eesox SCSI2 card

The Eesox card is a first from a company which has made its reputation with its support for the IDE interface in general, and IDE drivers for a wide range of CD-Rom drives in particular. In common with all the new cards, it allows software switching of on-card SCSI bus termination – a great help in a test environment.

Unlike the other cards, its onboard software is in EPROM, and hence cannot be upgraded so easily. Its handling of exchangeable disc drives is particularly good, with empty drives being labelled just that: *empty*. The black art of SCSI bus termination is a minefield for those new to SCSI, and in this area the manual excels, with a very clear explanation and set of diagrams. However, the manual halts abruptly in the middle of describing the *!SDirector* management software. Numbering pages with even numbers on the right of two page spreads is also a little strange and they need to run it through a spellchecker.

I found *!SDirector* to be the simplest and most intuitive of all the SCSI applications to use. I recognise that such a judgment has an element of subjectivity, but with it I was less frequently in doubt about how to accomplish a certain task. That the iconbar display of partitions is immediately updated after a change, and that alternative icons are used for empty removable drives – with the caption empty – both contributed to ease of use.

Also, there is no need for the user to assign SCSI devices to particular logical unit numbers. The card worked faultlessly, and no problems were encountered. It never hung with an unfamiliar configuration. On inserting it into AlSystems' mega- machine, it recognised all the connected devices immediately, although it was initially a little confused by a disc containing a RiscBSD partition. (Only the Power-tec card is currently supported by RiscBSD, and that implementation is likely to prove slower than using the internal IDE interface.)

Eesox's warranty is for 90 days from despatch of the card and its software, and ➤

Hard connections

they too have a website for software upgrades.

Evaluating the cards

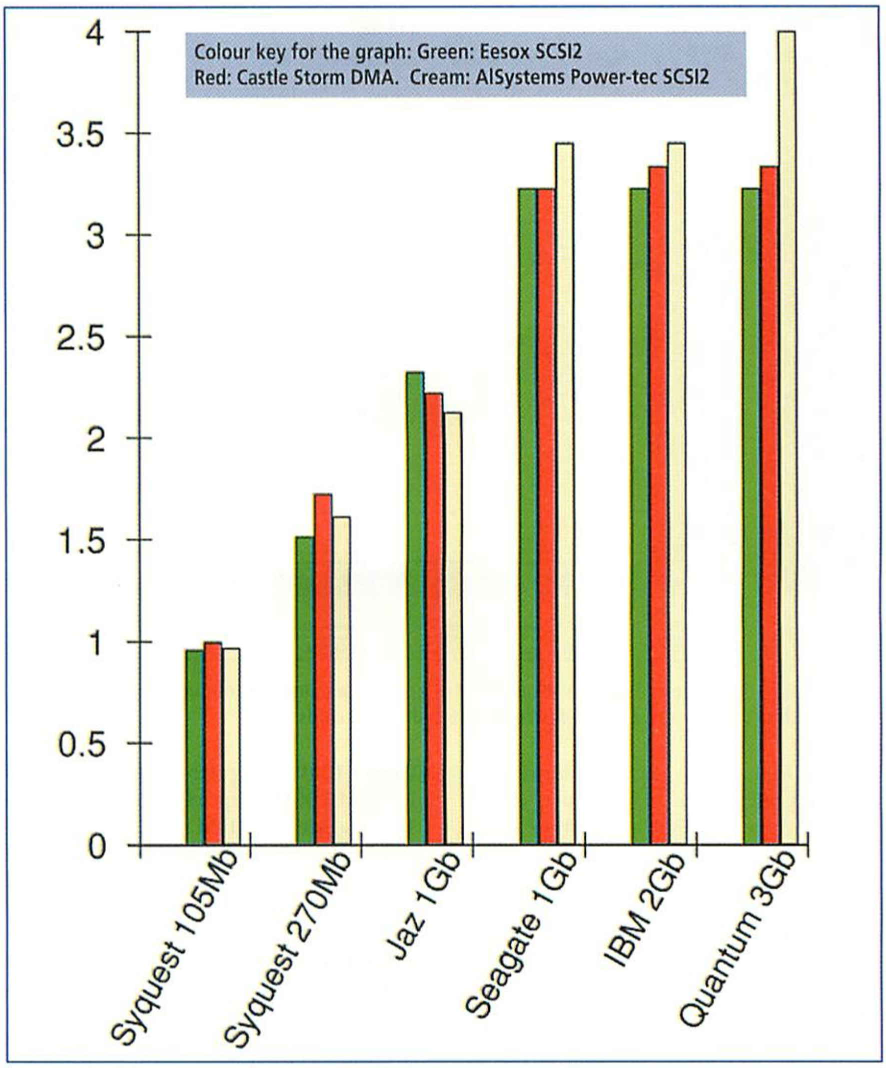
Over the years, the SCSI standard has evolved into a number of standards, along with descriptions such as SCSI2, SCSI3, Ultra and Wide. Only the latter is inextricably linked to particular hardware specifications, as the Wide standard requires more connections, and hence larger connectors (electronically if not physically). The nuances of the other standards are irrelevant to most users, and cards built to later and faster standards should be perfectly happy driving earlier and slower devices.

In the case of the current Risc PC, the speeds which later SCSI standards offer are largely theoretical, since the system bus (embodied in the backplane and motherboard tracks of the computer) is the limiting factor. That limit is about 4.5Mb/sec with 16-bit transfers and up to 7 to 8Mb/sec with 32-bit ones. These figures assume the use of Direct Memory Access (DMA) where the SCSI card takes control of the system bus and transfers data between the hard disc and main memory without the processor being involved.

A further limit on speed is provided by the SCSI devices themselves. Nothing but a hard disc (fixed or exchangeable) will be able to supply data at anything approaching the speeds quoted above, and many quite large HDs peak out at 3 or 4Mb/sec.

Nevertheless, rather like sports car makers the manufacturers of fast SCSI cards love to boast of their maximum speed, even if they will only be attained under ideal conditions such as transferring very large files on very large and fast SCSI discs, and using their own disc speed testing software. Some current advertisements are very misleading in this respect, quoting speeds that no real-life system could sustain, and seeming to state the theoretical data rate between the drive and the card, not the drive and the memory of the computer.

So, with the warning that such speeds are only rarely obtained in *real life*, the Test 1 was to simulate loading large files off hard discs of varying sizes, using Dave Holden's *!HDSpeed* program. For comparison, the non-DMA Castle card managed about 2.0Mb/sec, and the standard Risc PC IDE interface is limited to about 1.7MB/sec.



How the interfaces fared with a variety of drives

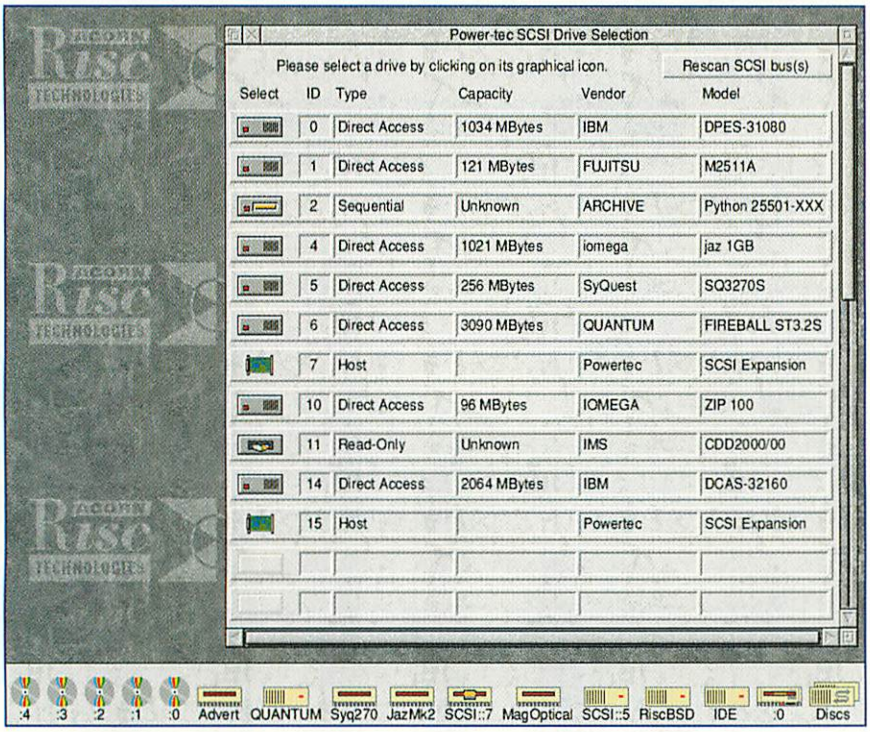
A more realistic large-file test which you can reproduce if you have the StrongARM upgrade CD is to copy the 50Mb DISC370 archive from a fast HD to another directory on the same HD. A total of 100Mb of data transfer is taking place, so the actual transfer rate can be calculated simply. This is Test 2, with a graph showing average read/write rates for the whole 100Mb of data transfer.

Finally, I timed the opening of a very complex *Impression Publisher* document, stored in directory form, and consisting of 400 individual files totalling only 3Mb. I have not tabulated the results, as they varied little between cards and drives, indicating that such use gains little from fast drives and interfaces. A very slow drive with a slow non-DMA card was almost as fast on this test as the fastest drive with the fastest interface!

Conclusions

About a year ago, the Acorn newsgroups on the Internet were full of stories of broken directories and lost data with SCSI2 cards. The finger was pointed at the DMA software which is needed to operate these

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An iconbar to drool over. AlSystems' *!Powermgr* offers a wide range of configuration options, including this comprehensive list of devices connected to two cards

cards at high speeds, but no culprit was definitely identified. It was much to my surprise, therefore, that a month of using four SCSI cards with a variety of devices and frequently changing configurations brought no problems with broken directories or lost data.

In terms of speed, all offer a worthwhile improvement over earlier non-DMA cards. However, two comments need to be made – first, you will not notice gains with slow SCSI devices like scanners or small discs and second, the speed differences between the cards under test are not noticeable in practice. Never did I think, "Wow, that was fast – I must have the xxxx card installed."

So, which card should you buy? Clearly, the Connect32 interface was eliminated from my shortlist quite early on. With confusion over UK distribution and the apparent unavailability of an English manual, it would have to be an outstandingly good board to be recommended. It isn't.

The remaining three all worked well, offered remarkably similar data speeds and functioned with the various drives I tried: 105Mb and 270Mb Syquest drives, a Fujitsu 120Mb magneto-optical drive, 1Gb Jaz and 100Mb Zip exchangeables, and 1Gb Seagate, 2Gb IBM and 3Gb Quantum fixed discs. Clearly, the era of widespread compatibility problems with Acorn SCSI cards is behind us. Typical users would be happy with any of these three interfaces.

With the Castle Storm DMA32 card, the fact that the onboard internal SCSI connector is neither polarised nor boxed meant that when I accidentally misaligned the internal cable connector in a way which the other boards prevent, I blew some components on my 105Mb Syquest drive, making it inoperable. It was, of course, my own fault. But the use of such connectors is an accident waiting to happen and my experience, however rare, cannot be unique. Potential purchasers of the Castle Storm cards must weigh that risk against the significant benefit of an indefinite warranty period and Castle's deserved reputation for support.

That leaves the Eesox and the Power-tec cards. Both do what they do faultlessly. But the Power-tec does a little more. Also, on the fastest drive tested, it was able to differentiate itself from the rest of the pack. For simple SCSI installations, I warmly recommend the Eesox system for its ease of use - assuming that the next version of manual will complete its description of *!SDirector*.

After a month of changing interfaces and drives on a regular basis, it was often a relief to return to the simplicity of the Eesox card and software. Its ability to recognise new drives and self-configure was very useful and I kept it in my own machine for daily use. Particularly for version 1.0 of a first attempt at a SCSI interface, I was very impressed.

But for more complex configurations or for applications in which the ultimate speed is required, the Power-tec comes into its own. At the old price of £205, a case could be made for choosing a cheaper and simpler card. But at £158, AlSystems haven't left much room for people to undercut them. Only by taking advantage of special deals from Castle or Eesox can it be beaten by a significant margin. The Power-tec card is the obvious recommendation - but if I knew I'd never need a streamer, the Eesox card would tempt me.

Finally, thanks to all the manufacturers involved for supplying loan cards, and in some cases additional equipment to assist the testing process. AU

Card	Cost (inc VAT, not including delivery)	Contact number
Castle Storm DMA32	£150.40 (£112.80 if you buy a SCSI device at the same time or £94 if trading-in a working SCSI card before 31.12.97)	Castle Technology: 01728 621222
Connect 32 SCSI2	£129	ACE: 0049 231 7274260
Eesox Fast SCSI2	£146.88 (£110.16 if you buy a SCSI device at the same time)	Eesox: 01954 208208
Power-tec Fast SCSI2	£158.63	AlSystems: 01420 561111

RISC User's Centenary



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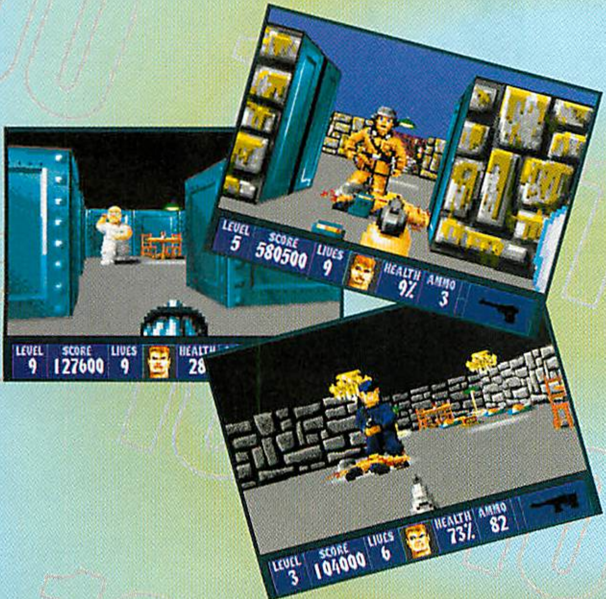


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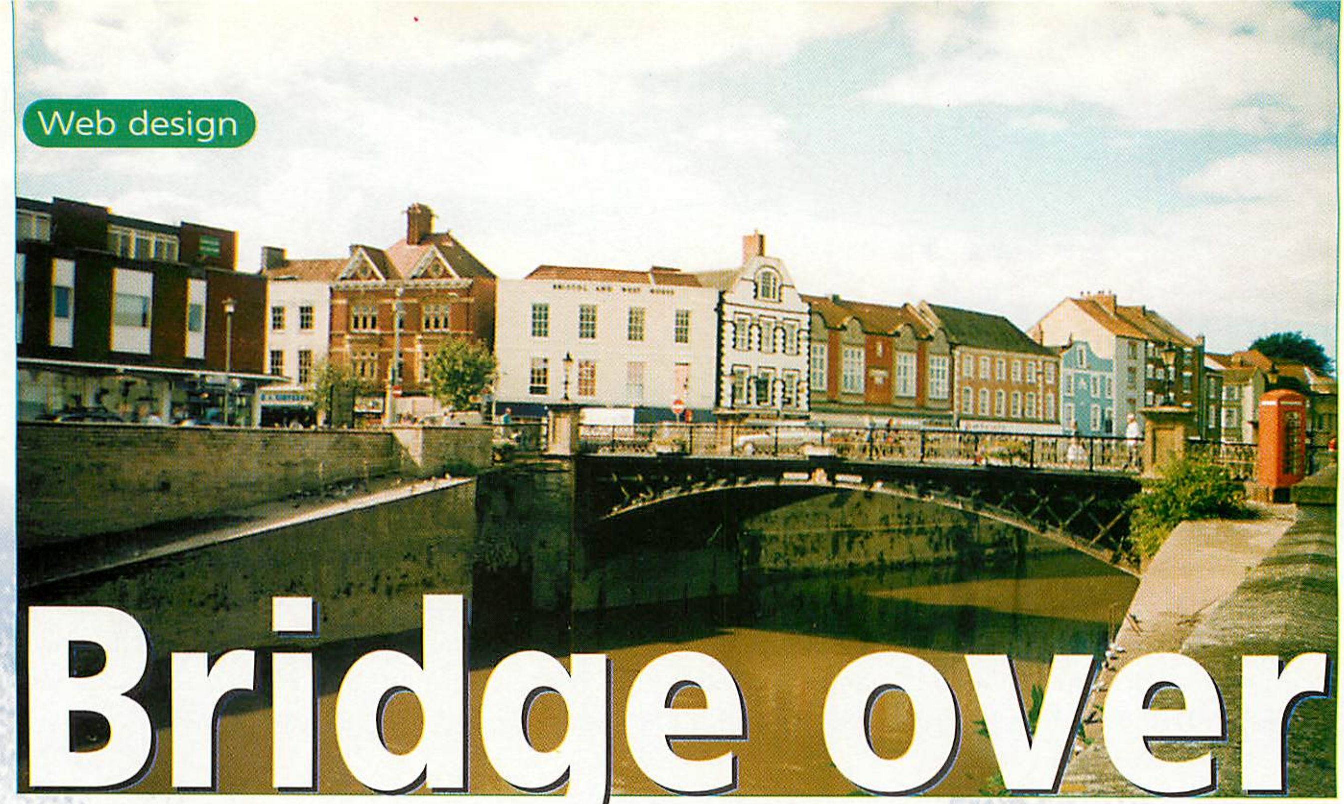
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Bridge over troubled water

Adam Juniper recounts his turbulent experiences after creating his Web pages and offers some tips to would-be Web masters

As Acorn users we are painfully aware that we are, or were, in a closed market. The Internet, however, has given us all an unexpected freedom.

Leaving the wood

Where once we remained in the safe (if overused) metaphor of a nice oak wood, we are now free to stray into a whole new world inhabited not by computers or geek-talk, but real people.

The idea of exploring this strange new world was all too compelling for me. After a little research I found that Demon Internet would be an ideal, and cheap ISP (Internet Service Provider) for a beginner who might need some Acorn-friendly support.

Once the niggles were sorted out I was free to join the rapidly growing "Internet Community". I soon discovered that an e-mail address had already become passé and to be cool I had to have my own website. Luckily, when I decided I wanted to do this, Demon gave all their members 5Mb of space – all I had to do now was decide what to include.



Quayside on the river Parrett

The 'Real Guide'

Choosing content for a website is not easy. Nothing shows this more clearly that the plethora of pages devoted to people's favourite bands, computers, cars, cats etc. I wanted to be more original, so I decided to give Bridgwater, my hometown, the Web presence it deserved.

Learning HTML as I went, from a book and Web tutorials, I created an electronic guide to the town's more celebrated features – 'Smell-o-phane' – the town's infamously smelly factory, 'Black Friday' – the day after Europe's biggest illuminated carnival, the world's largest Oxfam store and a man who shall remain nameless who runs round town driving an imaginary van. These are the things that make up Bridgwater and are what the residents see or smell, every day. In a Somerset guide the town is described as "Rough & ready, cheap & cheerful" but BBC's 'Fist of Fun' was less kind.

I uploaded my site in August 1996 and following its inclusion into 'Yahoo!' and other search engines I received a steady stream of praise in the in-box. I let the site exist with minor updates (such as sightings of the imaginary van) from then until earlier this year when I answered the phone to find a journalist from the *Western Daily Press* on the other end. I discovered that Graham Watson, the local Liberal Democrat Euro-MP, had found my site and issued a press release suggesting that Bridgwater needed an 'Internet Boost'.

I was interviewed over the phone and photographed at college for what I was promised would be a 'tongue-in-cheek' article about a 'tongue-in-cheek' site. Lo and behold it appeared a couple of days later, bright and colourful on page 3 (and



Bridgwater (out of focus) in otherwise rural somerset



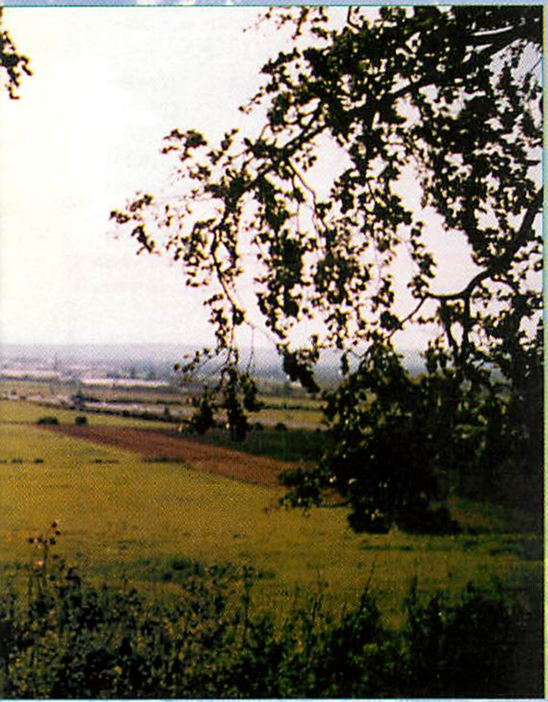
A welcome sign?

please do not think what you're thinking). The very same day I discovered just how many people read that paper. Within college I became a minor celebrity. Outside college I had attracted the attention of the Mayor and the district council.

In the same paper a Trevor Donaldson OBE, in the 'Voice of Somerset' column, defended the "declining" (his word, not mine) town. The Mayor, Ken Parkin, also had a few choice words on the subject. In short, I had begun a press war as local politicians fought for column inches in the town's own newspaper. The fuss was enough to warrant a mention by the national press and I even received a piece of hate mail (on a floral card). There was no escape, the local paper even pestered my girlfriend's mother.

Finally, as if being catalyst and ping-pong ball in Bridgwater politics was not bad enough, I was ordered into the college principal's office. She was not at all happy and was essentially disturbed by the publicity above all else.

Bridgwater's 'Internet Insult' slipped out of the limelight over the next month thanks to a rural shooting, but just occasionally I meet someone who remembers reading about me – well it's one way to start to a conversation.



What can be learnt

My story is unusual but not unique. When going online there are a number of considerations that might not spring immediately to mind, but because of the global nature of the Net these issues must be considered when you write. The more potentially controversial your material, the more wary you should be.

The first consideration is the audience your site is aimed at and, more importantly, the audience your site is not aimed at. While it is obvious that you want to make the site interesting for your target you have to be equally aware of the views of anyone who may be excluded. My site essentially excluded those who liked Bridgwater or who were compelled to say they did for political reasons.

The press may extend this and can open up a wide spread of opinion, possibly sensationalising a particular angle. In my case, the press enabled the excluded audience to have an opinion without reading the site. Suddenly 35,000 people knew about the content of the site not just the 450 who had actually read the page. Their views were, in many cases, crystallised without even reading the page. On the Net most people will just ignore a site that does not appeal to them, or can respond directly to the author. With newspapers people are reached whatever their views.



Centre of the town's nightlife

For example, some people will like the Spice Girls and others will not. On the Net, there are fan sites and critical sites to choose from. Recently the authors of negative sites have received quite a drubbing in the press for doing little more than air their views – oh and allowing you to play 'Slap-a-Spice' if you have Shockwave!

If you are concerned with ecological issues or any other political campaign then your site is probably under the close scrutiny of whoever you are campaigning against. Many companies will be more than willing to prosecute for damage to their image.

Another risk is your employer or other organisations you may belong to. In my case it was my college who were disturbed by the publicity. With employers you should know your own limits.

One final lesson is to communicate with your audience. You should have an e-mail address on your site and preferably a form to encourage responses. A guest book is also appropriate – a free one can be obtained at www.Lpage.com if you follow the instructions. Not only is it nice to hear from like-minded people but you can listen to what they say about content.

Litigation

One thing it is essential to avoid is litigation. This country's nigh-on-draconian libel legislation applies to the Internet just as it does to print media. It is unlikely you will ever get a summons, but there is no point taking the risk. If your case comes to court you will be required to prove any comments in question – something that is almost impossible.

If you have controversial opinions, you will not want to be strangled but other than moving to the United States – where you will find more enlightened legislation – the solution is to exercise a little care.

Essentially the key to escaping libel charges is to make it clear that what you write is your opinion rather than a statement of fact. The law then protects your 'fair comment' from any legal challenge. Avoid saying, for example, 'X is a revolting dump' but perhaps 'I found X a revolting dump'. Try and work it into your text, it still has to read well if you are going to keep your audience.

Creation

What happened to me should in no way deter you from creating and maintaining your own website, merely provide a bit of direction. Setting up my website, despite a few tense weeks, has been a thoroughly rewarding experience, putting me in touch with people as far and wide as Hong Kong and Canada – all who disliked Bridgwater however!

The Internet is especially exciting in what can seem a closed Acorn community. Learning HTML while it's still new and fun will transform your computer. Instead of a wordprocessor it becomes a gateway to another world, where you are editor of a publication on whatever you want, in contact with people who want to read your site. The dangerous but special thing is that that world is the *whole* world.

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* includes CD ROM interface

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1.7Gb	*£177	£207.98
2.1Gb	***£187**	**£219.73**
2.5Gb	*£135	£163.33
3.2Gb	*£149	£175.08
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* inc. internal removable HD & CD ROM i/f

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2.1Gb	**£109**	**£128.08**
2.5Gb	£120	£141.00
3.5Gb	£135	£158.62
4.3Gb	**£159**	**£186.83**
5.1Gb	**£179**	**£210.33**
6.4Gb	**£238**	**£279.65**
6.4Gb*	**£179**	**£210.33**

*(5.25" IDE)

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* requires Simtec I/F available separately (£69 inc)

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	Internal	External*
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EZflyer 230Mb	**£110**	**£129.25**	**£110**	**£129.25**
SyJet 1.5G	**£239**	**£280.83**	**£289**	**£339.58**

* requires Simtec I/F available separately (£69 inc)

SCSI Removable (Internal) (External*)

	Internal		External*	
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EZflyer 230Mb	**£110**	**£129.25**	**£110**	**£129.25**
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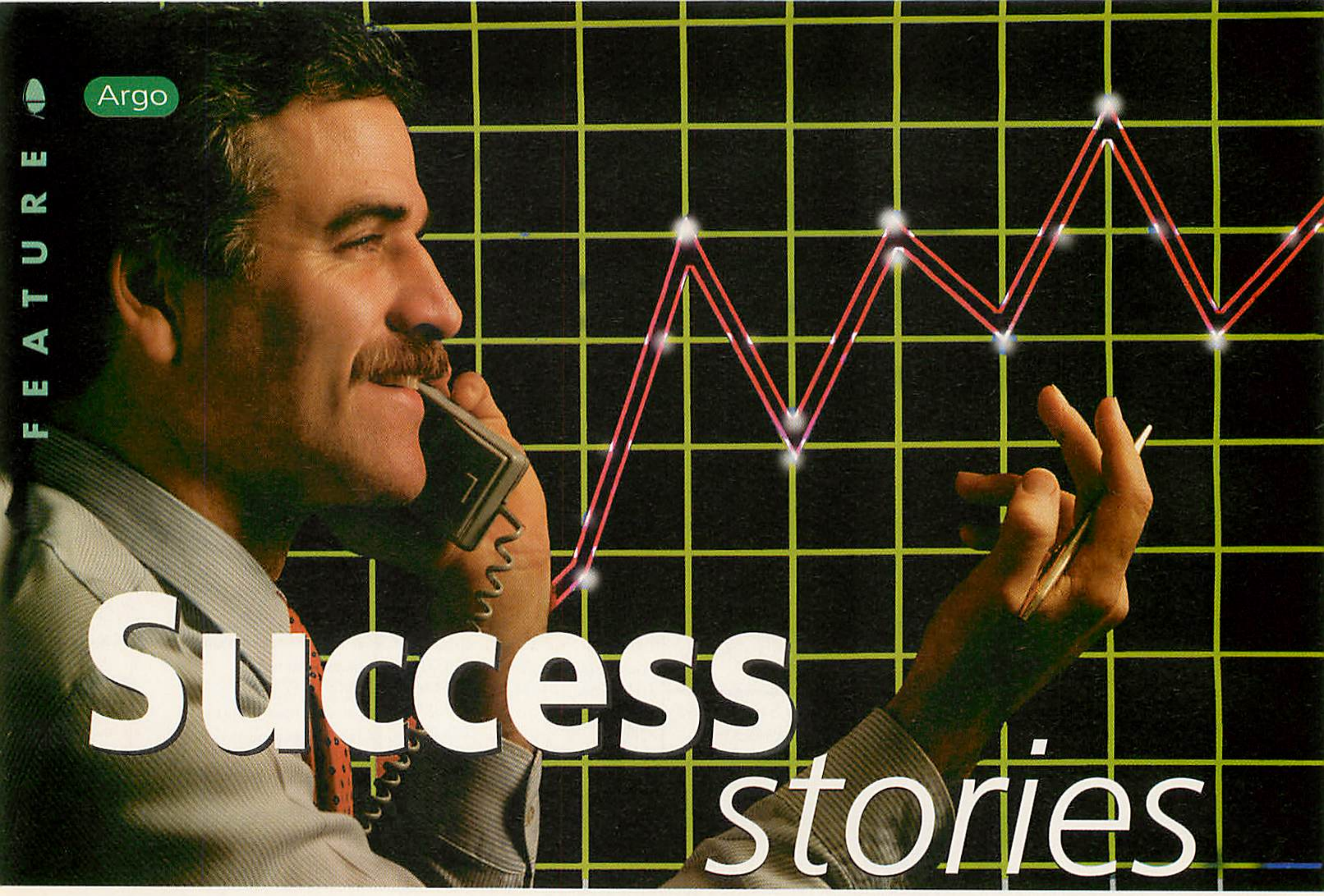
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Success stories

David Matthewman and **Jill Regan** visit Chichester, home of Eclipse, VTi and ArgoNet

A little over two years ago, the Acorn company which was known on the hardware side as VTi and on the games side as Eclipse acquired a third personality – Argo Online, Internet Service Provider to Acorn customers. The timing was auspicious. The Internet, a curiosity at previous Acorn shows, was to be a major feature at Acorn World that year. The usual games arcade was greatly reduced in size to make way for a Cyber Café, sponsored and run by Argo.

The release in late 1995 of the *ANT Internet Suite* and *Termite Internet* had lessened the configuration file voodoo necessary to get Acorn users on-line – although in fact the Argo software owed nothing to either of these browsers. Originally called *Odyssey,* until it was discovered that there was already PC software of that name, Argo's *Voyager* suite was made up in part of PD utilities and in part of software written in-house at Argo. It's since come to be almost entirely in-house, and moves have recently been made to include Acorn's new browser.

An all-in-one solution

The attraction of *Voyager* was that it was tailored directly to Argo's system. Throw

The Argo team

The driving force (and Executive Director) at Argo is Andrew Foyle, who goes back a long way in the Acorn market, having started out with Hugo Fiennes at The Serial Port. He seems to start companies almost every other year, although at one point he cheated and just re-named Vertical Twist to VTi 'because Vertical Twist didn't really mean anything'.



Michael Foyle

Andrew Foyle's father, Michael, came on board full-time about three years ago, as Chairman, having worked before that as the Managing Director at the European HQ of the publishers John Wiley and Sons. Aged 64, Michael is very pleased to be at the cutting edge of technology, as so many of his contemporaries are literally at the 'golf and gardening' stage of their lives.

Argo's Marketing and Sales Director Ian Goodall is a familiar face in the Acorn market; the ubiquitous Scot used to be the UK sales manager at Acorn, founded Creative Curriculum Software and was the first ever interviewee on the back page of *Acorn User* (when it was The Moxon Interview back in 1993).



Ian Goodall

Richard Jelbert is Argo's Technical Director and is apparently named after an ice-cream shop in Cornwall. An electronic engineer, he joined the company seven years ago.

Jason Tribbeck is Argo's Chief Programmer, and was the subject of an 'I wrote that...' feature in a previous *Acorn User*, so quite enough has been written about him already.

in a modem, and Argo could sell you a system that would more or less work 'out of the box' to connect your Acorn machine to the Internet.

'We were selling everything you needed to get on-line', explains Andrew Foyle. 'This went down really well; on the Acorn platform there wasn't really anybody trying to sell you software, Internet connection and modem all from the same firm. Part of the idea was that the buck stopped with Argo. If something went wrong, we couldn't and wouldn't say: "Well, that's Demon" or "You'll have to talk to the modem supplier".'

For a market accustomed to being treated as non-standard and not worth supporting by many other ISPs, this was a welcome attitude.

Internet for the confused?

There's a rather nasty streak that sometimes creeps into postings on the Acorn newsgroups when someone with, say, an account paid for by their university is talking to an Argonet subscriber. To some people, an argonet.co.uk account is a sign that the user isn't technically competent to sign up for a 'proper' Internet account. As getting onto the Net with Argo is so easy, the argument runs that only someone who didn't have the knowledge to do it the hard way would have an Argo account.

This argument is fallacious for at least two reasons. Firstly, even technically competent people often go for the easy option – for some obscure reason possibly to do with commonsense. Secondly, the Argo offer in *Acorn User* and at the Acorn World show came at the precise time that Acorn users of all levels of competence were waking up to the possibility of going on-line with their Acorns. The offer therefore caught a lot of people who would have been perfectly capable of using the *ANT Internet Suite* to access Demon, but went with the Argo solution because they saw it first.

Not that there's any shame in having chosen Argonet because you were daunted by the other solutions. In our opinion the influx of new blood that Argonet brought to the Acorn newsgroups greatly enriched them. And where would we be without puzzled newbies muttering: 'OK, I understand BTW and IRMFI, but what on earth does ZFC stand for?'

Pioneers

Argo were pioneering enough as the first Acorn-dedicated ISP. However, Argo notched up a far more significant first in September 1996 when it made their first public share offer. This share offer was made mainly to their own subscribers over the Internet, indeed the prospectus was published on the Web before it was published as a printed document. This is a very state-of-the-art way to offer shares – Argo were the first company to do this in Europe, and among the first in the world.

Naturally, this novel way of raising money was risky, but the risk paid off. The share offer was a complete success, a second one has recently taken place, and a third is in the pipeline.

Argo are also doing pioneering work with NCs. At first, Andrew was worried that Argo had missed the boat with the NC. When they became involved (writing the Zip driver) Acorn had already done the deal with ANT for the browser, and it wasn't immediately apparent what there was for Argo to do. Looking deeper into it however, Argo found that actually there was a *lot* of server-side technology needed to make the NC work at all. Argo's closely integrated work on both the client and the server side of Internet provision, and their experience with the RISC OS architecture, gave them a unique skill set. As Andrew points out:

'As Acorn begins to license their technology, there are many more people beginning to use Acorn's technology who frankly don't know the first thing about the technology they're using. You've got these big manufacturing firms using Acorn technology, but they're not computer firms and don't really know what they're playing around with.'

When Argo received their NC so they could write the Zip driver, they decided as a matter of principle to make the changes to the Argo server necessary to support the NC.

'We casually told Acorn that we'd got the NC working with Argonet, and they virtually fell backwards off their chairs. They told us that no-one else had managed to get the NC working – they were about at the stage of paying firms to say *theoretically* how it might all be done. We'd just felt that if Acorn and other firms were about to start selling these boxes, we, as an ISP, ought to support them, but from there sprang our latest core technology, *Nectar*.'

Nectar is a collection of different software which, taken together, allows you to connect a thin client to the Internet. It encompasses registration, e-mail, user tracking and many other areas that combine to make the NC, well, useful.

If this sounds suspiciously like my Zyris report last issue, it's because the thinking of the two companies is very similar. As it happens, they also share Malcolm Bird as a non-executive director.

However, Argo are looking at some very different areas to Zyris, because it's a large and diverse field.

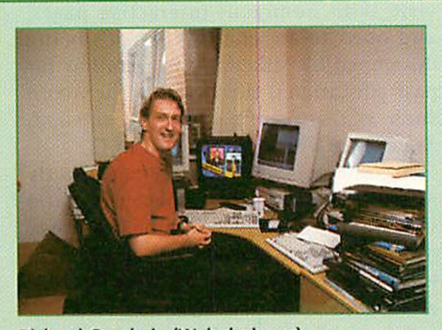
➤

Richard Goodwin is Argo's Web designer, and also puts together their video presentations. This means that he gets to play with a lot of cool graphics and video software and hardware, although annoyingly he has one of the few models of scanner that even David Pilling cannot get to work with an Acorn.

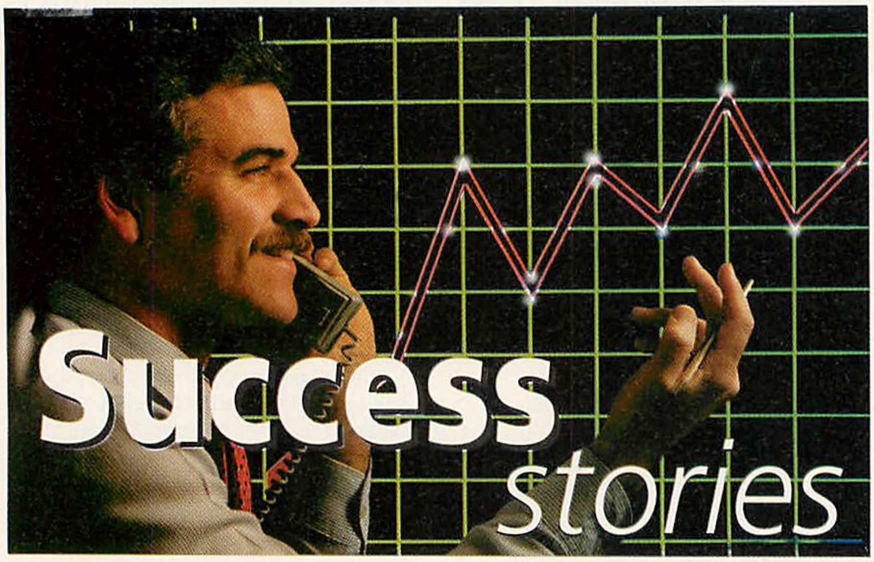
Molly Pickford, who handles Sales, is the archetypal Jill of all trades and so has done most jobs within the company at some point (she's also, currently, the fax machine). As one of the first ports of call for customers, and a prominent figure at shows, Molly is to many people the public face of Argo.

Everyone at Argo stresses that the company is a team effort, so just as important as the above are: Anne Scott (PA), Julie Rumbold (Operations Manager), Matthew Gray (Customer Support Executive), Nicholas Horwood (Customer Support Executive), Andy Loukes (Internet Business Development Executive), Eamonn Doherty (Programmer), Christine Wills (Accounts Manager) and Lyndsay Perry (Accounts Assistant).


Richard Jelbert, Andrew Foyle and Jason Tribbeck


Richard Goodwin (Web designer)


Molly Pickford



Off-line

VTi (and previous incarnations) have produced a slightly eclectic range of Archimedes hardware and software ranging from a SCSI card to the archiving utility *ArcFS 2*. The flip-side of VTi is Eclipse, an Acorn games company which produced both games (such as *Xenon II* and *Darkwood*) and the joypad hardware to play them.

Argo still has an interest in this product range. Two of the most successful VTi products – the SoundByte sound recorder and Zip drives – are attractive to the NC market as well, as they operate off the parallel port. Although the company hasn't released a game for two years now (since *Global Effect*), the Eclipse side of things hasn't been forgotten. A lot of the Acorn games have the advantage of being quite small – they don't come on multiple CD-ROMs. This means that Argo can potentially offer them on-line as a value-added service to someone selling an Acorn-based NC.

Marketing

Richard Jelbert believes that the initial success of VTi and predecessors was a result of producing technically interesting products like MIDI and SCSI cards, which got the company a 'techie' reputation and following. Lately, as both Richard and Jason Tribbeck agree, the success of Argo has owed much to having 'The right product at the right time.' This is almost a text-book definition of marketing, and the person in charge of marketing at Argo is Ian Goodall.

Ian is helping the company identify new markets and to match what it does well to the markets. A traditionally technology-led company is being dragged into becoming more market-led – not a transition every Acorn company has successfully made.

Ian joined Argo at the start of this year, and therefore doesn't claim any responsibility for Argo's initial success. However, he is contributing a great deal to keeping the company healthy. The first project that he saw all the way through from conception was the highly successful low-price Internet package recently offered in *Acorn User* (along with a similar package for other platforms).

Ian was, from the start, adamant that the product had to be under £100, and use an external modem to avoid compatibility problems. He'd assumed that this would limit him to a 14,400 modem – he still thought the offer worth doing – but in the end he managed to get a faster, full data/fax/voice modem and still met the price point for the offer.

One Argo development which will be released soon is Argosphere – a specifically educational website designed mainly for primary use.

Argosphere will be safe for children to visit, with numerous interactive pages, and open to anyone to visit. It's being developed by Mike Matson, familiar for past educational successes on the Acorn such as *Guardians of the Greenwood*. Argosphere will be launched at BETT.

Argosphere and Nectar are not directly Acorn-related, but this doesn't signal a slowing down in the Acorn-related areas. Acorn sales are as buoyant as ever, and Argo will continue to command a large presence at Acorn shows for the foreseeable future.

'You might find this hard to believe', adds Ian, 'but it wasn't until March of this year that we were connecting anything but Acorns. Although we now have to be seen to be multi-platform, we're not going to lose sight of the core market. We still put the majority of our effort into the market that we make money out of – the Acorn market. Also, there's no doubt about it that the Windows-based market needs more support resources per customer than the Acorn one.'

'The only negative of joining Argo was the BMW car policy. Anybody who knows me will know I absolutely hate BMW drivers, and I think BMWs are appallingly bad value. But I have to say with a marketing hat on that I know it's important that we have a nice image, particularly as we move into a market where we talk to big multinationals.'

As a compromise, Ian got a BMW convertible with a fully automatic hood, which other members of the company love playing with.

'He justified it by saying it was for carting stuff around to shows', says Michael Foyle, wryly. 'Of course Ian's just turned 50, so I said that I understood that he needed these artificial supports to his passing youth.'

Show time

Argo knows how to make a good impression at an Acorn show. The company surpassed themselves at last year's Acorn World with a stand taking up a large area on the top floor, well-designed and expensive. They held an informal party for subscribers on the Saturday evening, something that's easier to arrange if you're an ISP than it would be for most firms. By the time you read this Argo will doubtless have had a similarly successful 1997 show.

By offering the share scheme to their subscribers, Argo cemented the relationship between the ISP and the customer to a level that's probably never been done before. It's no coincidence that this happened in the Acorn market, where there's already a strong sense of community. Argo subscribers buying shares were contributing to the success of the Acorn 'club', of which they felt a part.

This was a very conscious decision on Argo's part. By cultivating a close relationship with their subscribers, they get them more directly involved in the development of the company, and of the company's products. The informal, 'first names' approach is carried over when Argo does business with much larger firms. It's often successful too, winning out over the 'hard sell'.

Of course, subscribers were also buying shares because it was a good investment. By the same token, Argo were offering Acorn Net connections not because they felt charitable towards Acorn owners trying to get on the Net but because it made good business sense. That *any* Acorn-related venture can make good business sense these days may amaze the cynics, but it can, and Argo are the proof. AU

Argo's details

Argo Interactive, 7 Dukes Court,
Chichester, West Sussex PO19 2FX
Tel: 01243 815815 Fax: 01243 815805
E-mail: enquiries@argonet.co.uk
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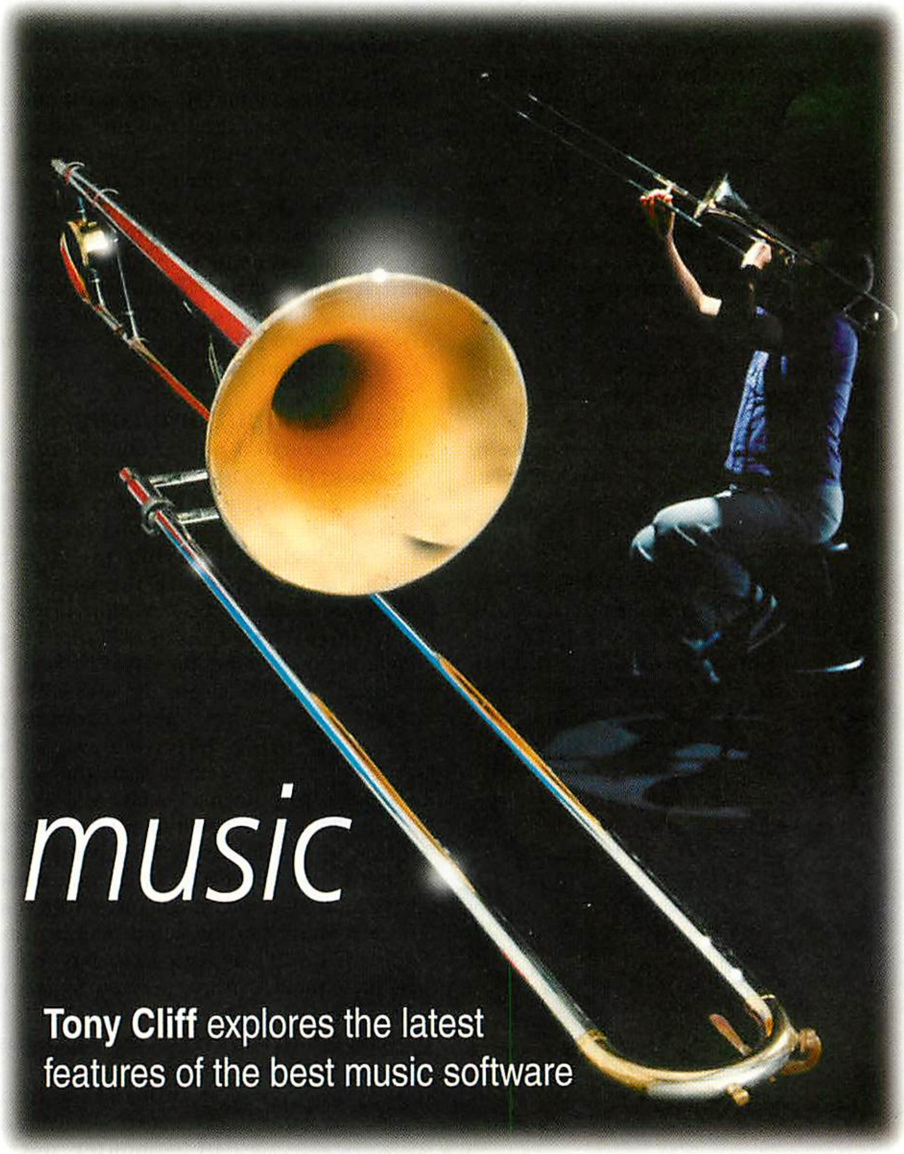
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Better *music*

Tony Cliff explores the latest features of the best music software



The *Sibelius 7* music software system is already well-known to *Acorn User* readers and the astonishing speed and simplicity of the software is now legendary.

The system is able to reformat music in seconds and, of course, automatically transpose individual parts from the full score while making all the necessary adjustments and unsurprisingly it has quickly established itself with publishing companies, composers and arrangers alike.

The Finn brothers, being musicians themselves, understand perfectly the type of computer software busy musicians really wanted and this was precisely what they set out to produce.

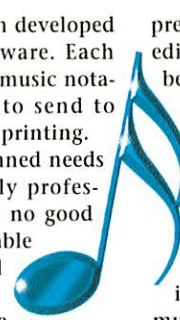
Sibelius 7 works exclusively on the Acorn platform and numerous musicians have bought complete RISC OS computer systems simply in order to run it. Having invested in this "non-standard" computer system, these same musicians have been impressed at the speed and versatility of Acorn machines and also the quality of other Acorn software.

For this review I have been testing out a pre-release version of the new version 3.5 but nevertheless one which includes nearly all the important new features and facilities. Since its original launch *Sibelius 7* has been undergoing a continuous process of development and refinement which has culminated in this latest release with over 100 new features.

Many of these stem from feedback the company have received from the committed users ranging from large international music publishing houses to individual composers and arrangers who are only too enthusiastic to suggest ways of making this extraordinary software system even better.

Scan in your scores

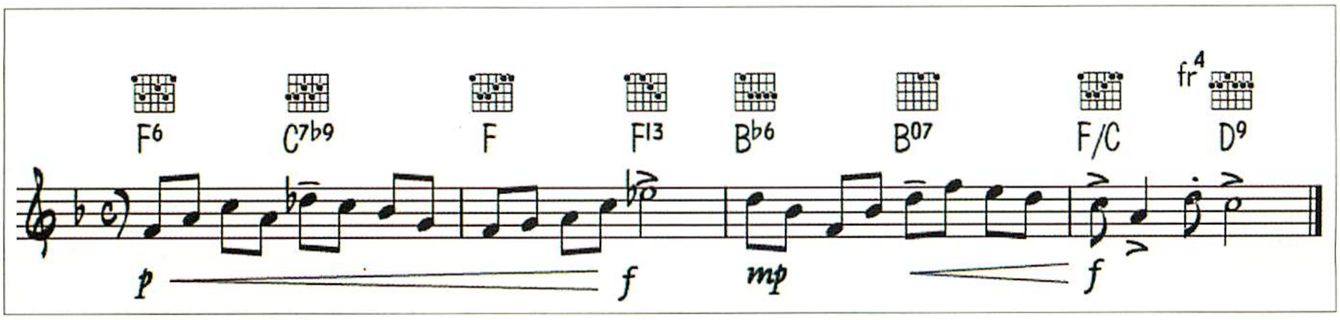
One particularly exciting new feature is the ability to scan pages of existing music into *Sibelius 7* which you can then edit in the normal way. This is technically very advanced and requires a flat-bed scanner and a program developed especially by Neurotron Software. Each music page is interpreted into music notation by the program ready to send to *Sibelius 7* for final editing and printing.



The original music to be scanned needs to be printed or an extremely professional hand copy – sadly it is no good expecting the program to be able to interpret scruffy pencil scores. After you instruct the software to 'read' the page, a grey stripe on the screen spreads slowly down the page as it is reading and interpreting and then the music appears in an editing window where any mistakes may be corrected before loading into *Sibelius* for final editing.

Reading a page of keyboard music using a StrongARM-equipped Risc PC takes around one minute but approximately five minutes using slower processors. A page of orchestral music will obviously take longer to read and it is clear that anyone intending to scan music regularly would be advised to use a StrongARM system. The computer should also have a minimum of 8Mb RAM fitted.

➤



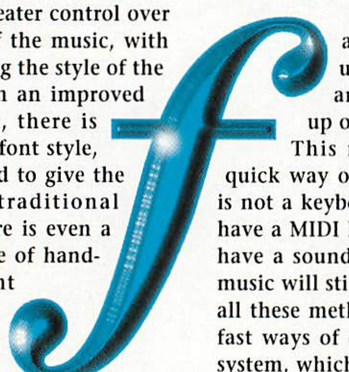
Output using the handwritten look

Apart from basic notation, such as notes, staves, barlines, time signatures, key-signatures and clefs, the program also recognises text, ties, slurs and hairpins. For anyone who needs to produce arrangements or new editions of existing music, this exciting new capability will save hours of inputting time.

Text scanning programs already exist but to scan music with an acceptable degree of accuracy is a much more sophisticated process and it seems that the Sibelius team have made this difficult concept a reality. Tests have revealed that the system is about 90 per cent accurate for both pitch and note-value which, at the present state of technology, is exceptionally high. The optical scanning program is available at £249 from Sibelius Software.

Fonts of all descriptions

One of the great strengths of *Sibelius 7* has always been the stunning appearance of the printed scores. With this new version there is even greater control over the final appearance of the music, with the possibility of altering the style of the music fonts. Apart from an improved standard *Sibelius* font, there is also a more traditional font style, called Rameau, designed to give the appearance of traditional "engraved" music. There is even a font to convey the style of hand-written music. It might seem slightly bizarre for a computer notation system to be producing a hand-written look but in fact there are many musicians, including jazz players, who actually prefer playing from hand-written scores.



There is also a font for lute music and a *Shape-Note Font* used in some modern scores and traditional sacred harp music – all these features offer even greater control over the final appearance. In addition, there is a font editor for anyone wishing to customise or design their own music fonts. This flexibility makes *Sibelius 7* ideal for notating any music from the most complex graphic notation to jazz and popular music.

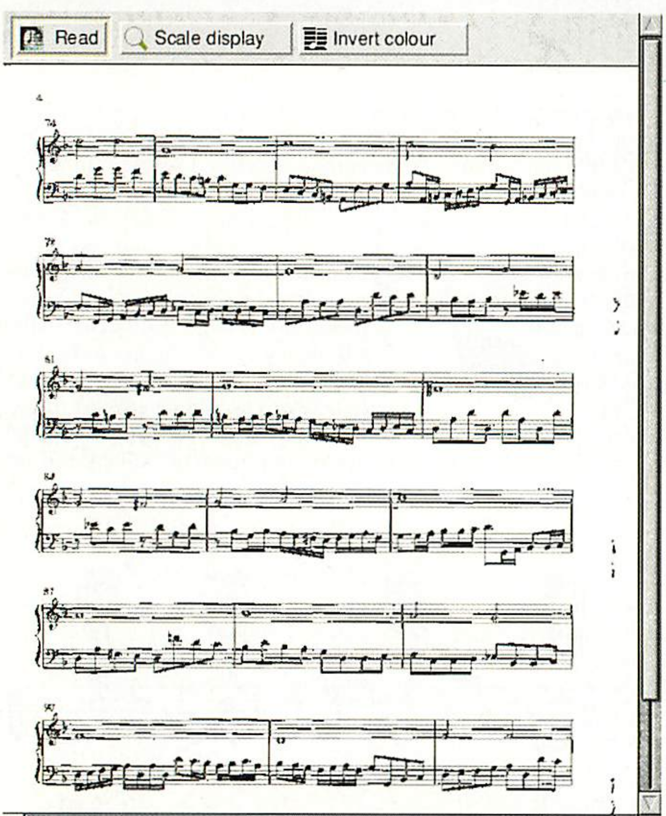
Ways to input and copy

The new version now includes an on-screen keyboard (if you do not have a MIDI keyboard) which allows a visual entry of the music. Apart from the existing methods of entering the music (step-time directly with the mouse or MIDI keyboard, or the flexi-time in real-time) there is now a new way of inputting the notation by using the QWERTY keys.

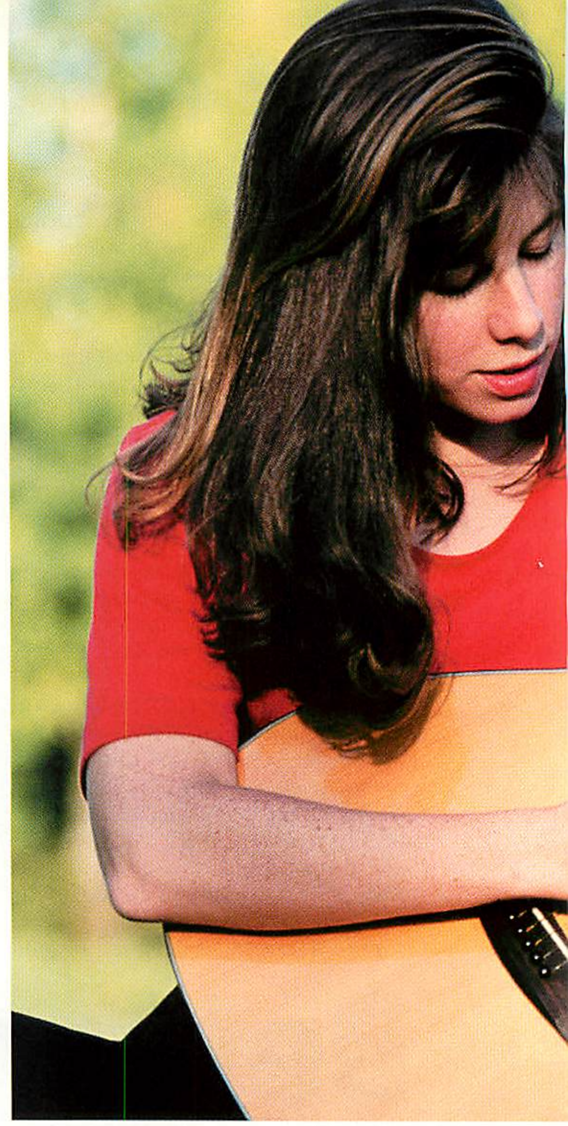
This means the user will be able to type in the music using letter names with arrow keys to shift the notes up or down an octave and so on. This new method offers a very quick way of inputting for anyone who is not a keyboard player or who does not have a MIDI keyboard and, assuming you have a sound-card or sound module, the music will still play back accurately. With all these methods there are now so many fast ways of entering the music that the system, which was already very rapid, has become even more flexible.

One of the great benefits of using a computer notation system is the ability to be able to copy music to other places in the score.

Apart from the ability to copy single staves of music to other positions or to copy sections of a whole score elsewhere, this new version allows selecting any specified group of staves to copy to another position. Once again this greatly improves the overall flexibility of use. It is also possible to select, for example, just the second note of a series of chords to another stave thus making it quite straightforward to create a separate string part from a chordal piano part. You could then select the third note to create another string line and it is easy to see that these are all further time-saving features.



A page of piano staves can be scanned in a minute

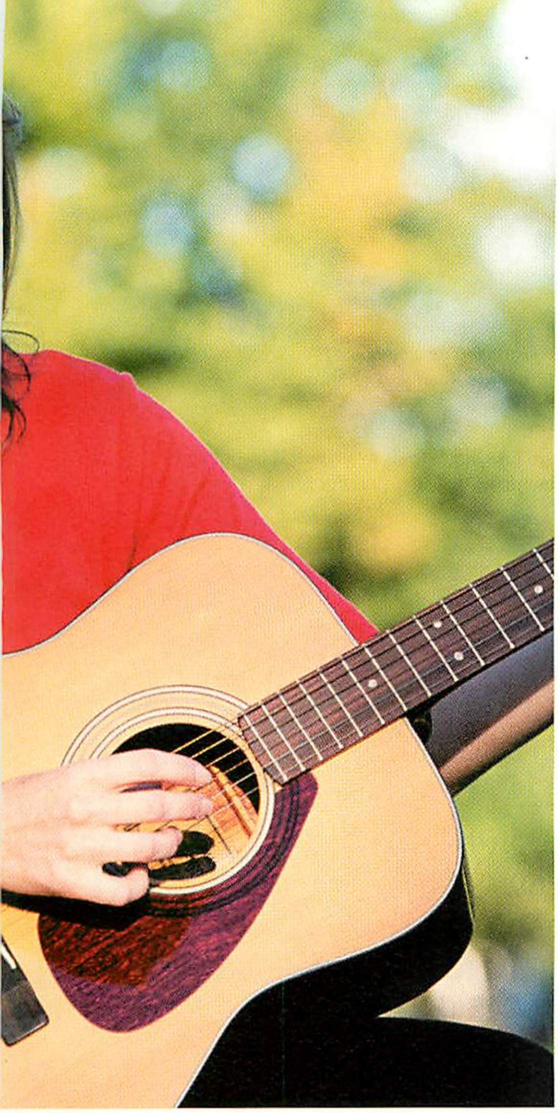


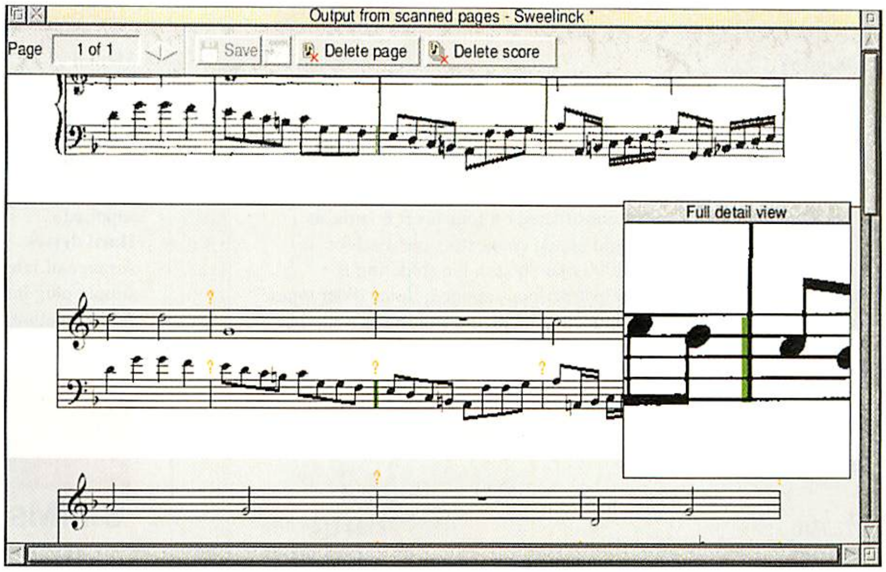
Film and TV composition

Since *Sibelius 7* is so fast and versatile it has been taken up by a number of film composers here in the UK and in the USA – there is a Sibelius Software office in Los Angeles – including Lalo Schifrin who wrote the music for Mission Impossible. It was therefore essential for *Sibelius 7* to be able to used with Time-Codes.

This simply means that the music on video or film and the written music are locked and synchronised together which naturally necessitates precise timing details. The software is now able to display the exact time position of every bar in the score and this may be displayed (or not if you prefer) in various formats to suit individual needs. These time-codes may also be included in the extracted parts making rehearsals for film music recording more convenient.

This facility allows the music from a *Sibelius 7* score to stay synchronised according to SMPTE settings (SMPTE stands for the *Society of Motion Picture and Television Engineers* and is a time-





code standard for numeric film or video devices) and automatically play from the correct SMPTE-specified position in a score. Moreover if you fast-forward the film, the score will also fast-forward and start playing again from the appropriate new start position. Of course you may not require such detailed time-codes and it is quite possible to switch these functions off.

However, the actual length of the score is automatically calculated and printed at the end (if required) and if you make a slight adjustment to a metronome setting then the new playing time is immediately calculated and adjusted also. This is probably a very useful feature for any musician.

Playing the music

When I first began to use *Sibelius 7*, in its earliest edition, the MIDI playback functions, while useful, were rather basic. However, in subsequent versions the MIDI aspects of the software were greatly improved and in this latest edition the MIDI playback features have become even more refined.

Firstly *Sibelius 7* now plays scores much more accurately and is better able to cope with the playback demands of very large scores and the ability to respond accurately to dynamic changes and articulation marks has also been improved.

Another major and very welcome change is that you are now able to alter the instrumental sound of a particular stave midway through the score. For example you could have a bass drum playing at bar 15 and a triangle, on the same stave, at bar 45 just by typing in a simple program change message. You can even change various MIDI control changes, such as adjusting the reverb or chorus which may be changed midway through the score.

There is also a new sound control window which makes the setting up for MIDI much more convenient. It is now a simple matter to play back just one group of instruments, say the brass or the woodwind, which is very useful when checking the accuracy of the score. There are bank numbers allowing access to modules with large numbers of sounds and also a drum note setting option allowing you to customise your own drum-kit settings.

Various swing options enable the music to play swing and jazz scores properly and also a setting for "Notes inégales" should you require it. Also included with v3.5 is a useful MIDI file player, called *Karelia*, designed to allow accurate playing of MIDI files and which lets you control the levels and other sound parameters using an on-screen mixing desk.

Too numerous to mention

There are numerous improvements of small details which added together greatly improve the handling of the system. Examples include the capacity to add articulation notes for all the notes in a bar or bars with one click or perhaps changing all the selected note-heads to cue-notes. There is a quick-transpose button simply using arrow keys rather than having to call up a menu and also a button which flips the ties and slurs automatically if you flip the note-stem direction.

I could not possibly list all the various improvements and refinements in the space of this article but they are numerous and well-considered. The *Sibelius 7* manual was praised from the first for its clarity, brevity and ability to be easily understood by non-computer experts, and there are now so many changes to the software that it has been necessary to produce a brand new manual for this release.

Sibelius 7 was already an outstanding product and now, in this greatly improved version, it has become even more desirable for any musician who needs to notate music regularly. There is a complete family of Sibelius software from *Junior Sibelius* through to *Sibelius 6* and *Sibelius 7 Student* as well as the fully-fledged *Sibelius 7* reviewed here. Many of these improvements and refinements have also been included for *Sibelius 6* and *Sibelius 7 Student* editions and there are special offers available for the next few months. AU

Product details

Product:	*Sibelius 6* £99; *Sibelius 7 Student* £399; *Sibelius 7* £888 (all these prices excluding VAT).
Supplier:	Sibelius Software
Address:	75 Burleigh Street, Cambridge CB1 1DJ
Tel:	01223 302765
Fax:	01223 351947
E-mail:	info@sibelius-software.com
Web:	http://www.sibelius-sofware.com/

Drawing conclusions

Alexander Singleton puts RiscCAD Professional through its paces

Computer Aided Design is not a term synonymous with Acorn machines for many reasons, not least the lack of a native version of *AutoCAD*. But one factor is undeniable – to buy a PC with enough horsepower to sensibly run a Windows-based CAD package is a very expensive process, whereas an equivalent Acorn – the new A7000+ – could cost less than £1000.

We have looked at both Minerva's *ProCAD* (June 1993) and Oak's *Apollonious PDT* (May 1995). Now it's the turn of *RiscCAD Professional* from Davyn Computer Services.

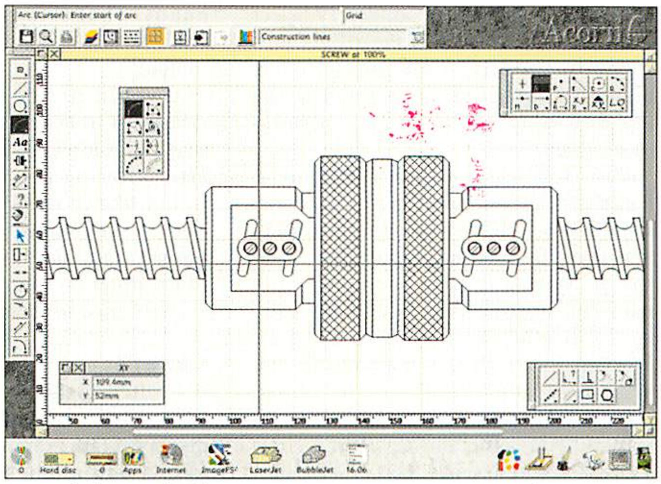
The programmer, David Buck, originally wrote *RiscCAD* for designing electronic circuits in the design department where he is employed. Work began shortly after the release of the original Archimedes, and in the last 10 years it has continuously evolved. My initial question when *RiscCAD's* unopened box confronted me three months ago was: Will I regret buying *TurboCAD for Windows*?

Getting started

RiscCAD Professional comes in a robust box, with a 20-page tutorial, a 140-page manual and three discs. The manual is rather dull (it is written by the programmer who admits to hating writing manuals). Installation is a simple case of drag-and-drop, and there is no copy-protection, although the user's name, address and serial number are stored inside the program. It requires a minimum of RISC OS 3.1 and 2Mb of RAM. A hard disc is recommended but not essential.

The software loads to the right-hand side of the icon bar, after displaying a loading screen. Clicking Select on its icon opens either a blank drawing window or a default drawing: the latter is useful if you wish your company name etc. to appear on all of your drawings. The iconbar menu leads to the preferences window and a password window.

Thoughtfully, the cursor's appearance in *RiscCAD's* drawing window can be selected from the following: As a normal RISC OS pointer, as a cross, as a crosshair (with lines cutting the page rulers at the left and bottom of the window) or as an open box with a small dot in its centre. A print border can be displayed and the page rulers turned on and off as required.

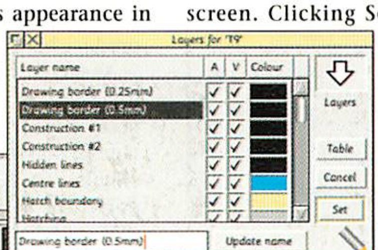


RiscCAD at work

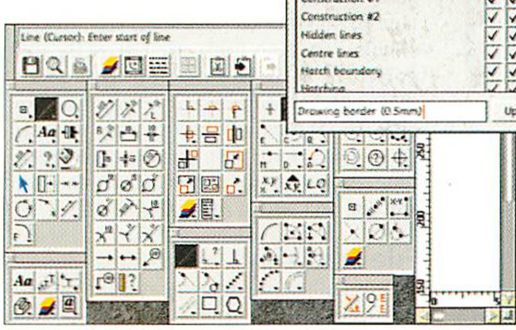
The window can, as usual, be scrolled with the scroll bars or by holding down Shift and pressing a cursor key, which I found very handy. A small co-ordinates window can be displayed, although unlike in programs such as *ProCAD*, you cannot type co-ordinates directly into this, as there are specific snaps to cater for this, which I shall look at shortly.

Toolboxes

One of the most striking differences between *RiscCAD* and its Acorn-based competitors is that it has more toolboxes, each obtainable from a main toolbox, which I generally keep at the left of the screen. Clicking Select on a tool in the main toolbox merely selects that tool, but clicking with Adjust or Menu opens up another toolbox (effectively a sub-toolbox), giving options referring specifically to that tool. I like the way sub-toolboxes, if opened from the main toolbox with the Menu button, disappear as soon as a tool is selected from them, which is rather like *TurboCAD for Windows'* fly-down button bars.



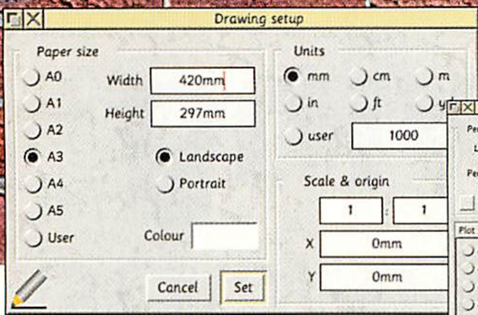
Layers can be set up easily



RiscCAD showing off its various toolboxes

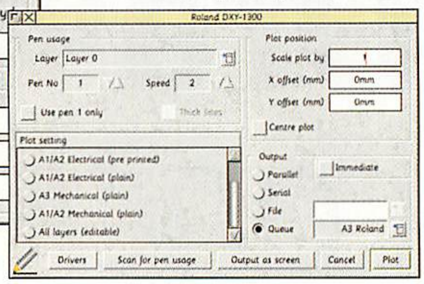
Toolboxes can be displayed both vertically and horizontally by clicking on the button on the far left of its title bar, and the user can also set how wide the toolbox is by using the preferences window. Closing a toolbox can be done by clicking with Adjust on its title bar. There is also a single *buttonbar* along the top of the screen, with buttons such as Save, Print, Cut and Paste.

The main toolbox gives access to all the drawing tools. Along with lines, circles and arcs, one of its options is automatic dimensioning, which is incredibly flexible and comprehensive. With *RiscCAD's* dimensioning, figures can be manually entered if required, and you can customise the arrow and text size. The accuracy of a ➤



The drawing setup window determines the scale of a drawing, along with page details

Plotting is very comprehensive



➤ dimension's measurement can be set, and measurements can be given a prefix and a suffix.

Coming back to the main toolbox, there are, of course, the obligatory Select mode and buttons to make fillets and chamfers. Unfortunately, non-circular (bezier) curves are not supported at the time of writing, but the author is working on them.

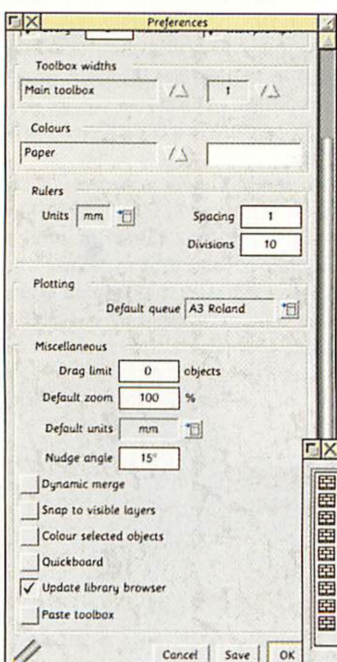
With technical drawings it is imperative that objects are drawn precisely; the snaps toolbox allows you to accurately draw using the mouse. (*Appolonious*, conversely, does not have user-selectable snaps but, instead, tries to automatically work out what you want to snap an object to, although this method can create unwanted results.) *RiscCAD*, impressively, will snap to grid lines, a point, an end-point, the centre of a circle or arc, a circumference, the middle of a line, or a specified distance along a line. The snap facility also allows you to draw an object to a particular co-ordinate or at a specified degree. When you want to change the snap mode for a single operation, you can use a keyboard shortcut, by pressing Insert followed by a corresponding letter. I would have found this more useful, however, if my hands were larger, so that I could press, for example, Insert and Q without resorting to using separate hands. That said, Tab can be used to change to the next snap in the snaps toolbox.

I would prefer it if the toolboxes refused to sit below a drawing window so that I wouldn't have to search for them after altering the window size, and I would like to use keyboard shortcuts to open a particular toolbox. To be fair, though, I should say that a large number of the program's functions *do* have shortcuts assigned to them.

Layers

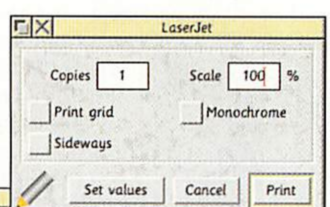
It is often useful to see and print drawings with only some of the detail displayed (for example, on the plans for a house, you might not want to see the where the electrical sockets are going to be fitted). Furthermore, you may wish to see, say, a building's external walls on the screen, but you may wish prevent these from being altered accidentally.

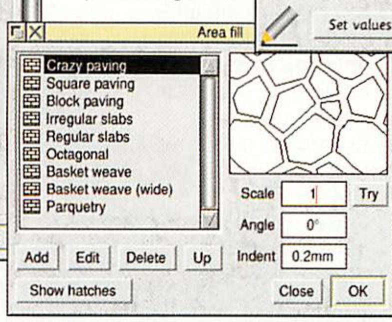
Layers are the method by which this is done. Everything drawn is assigned to the currently selected layer, and each layer can be hidden or locked. The software supports up to 32 layers, which should be more than enough for even the most complicated of drawings, and individual layers may, for ease of identification, be given a standard colour, line style and thickness.



The software can be customised using the preferences window

For printing quick drafts, I can print onto A4 using my laser by adjusting the scale factor in the print dialogue box





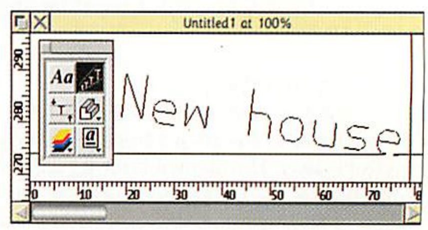
The package's Area Fill dialogue box is very powerful

Case study – Carter Construction

Andy Carter is a builder who opted for *RiscCAD* at the Acorn World Show in 1995. Originally he had his eyes on *ProCAD and Apollonious PDT*, but after talking to the author on the stand, he bought *RiscCAD* on the spot. "I find it a very good piece of software," explains Andy. "Although it was difficult to get into at first, it is very powerful, and you don't have to go on a three month course as with *AutoCAD* on the PC.

"I toyed with the idea of buying *AutoCAD LT*, the cut down version of *AutoCAD*, but it just seems to need a very long time to learn to use it properly."

One major factor Andy gives in favour of *RiscCAD* is that Davyn actually listen to their users: "The author has always been very good at implementing new features and being open to suggestions, although I have yet to find anything I can't draw with *RiscCAD*." Andy also praises the telephone support. Andy's business, Carter Construction, uses *RiscCAD* for local authority plans, but he also finds the package useful for sketching out the odd drawing.



Adding text

Plotting and text

RiscCAD has been designed primarily for use with plotters. Because plotters generally only support the drawing of lines or curves, the software can either use its own vector font (which is a very spindly typeface made up of lines) or any fonts built into a plotter. This has the result that plotting is a very quick process. However, like many CAD users nowadays, I opted for an A3 colour inkjet instead of a plotter. This is partly because of the keen pricing of colour inkjets, but also because they can produce better quality printouts.

As such, I would like to use RISC OS outline fonts in *RiscCAD*, which would give plans a more professional look (an advantage if they are to be shown to potential clients). Outline fonts are currently supported in both *ProCAD* and *Apollonious PDT*, but are promised in a future version of *RiscCAD*, possibly by the time you read this. (Davyn suggest that, in the meantime, drawings can be exported into *Draw* and the text added manually.)

File transfer

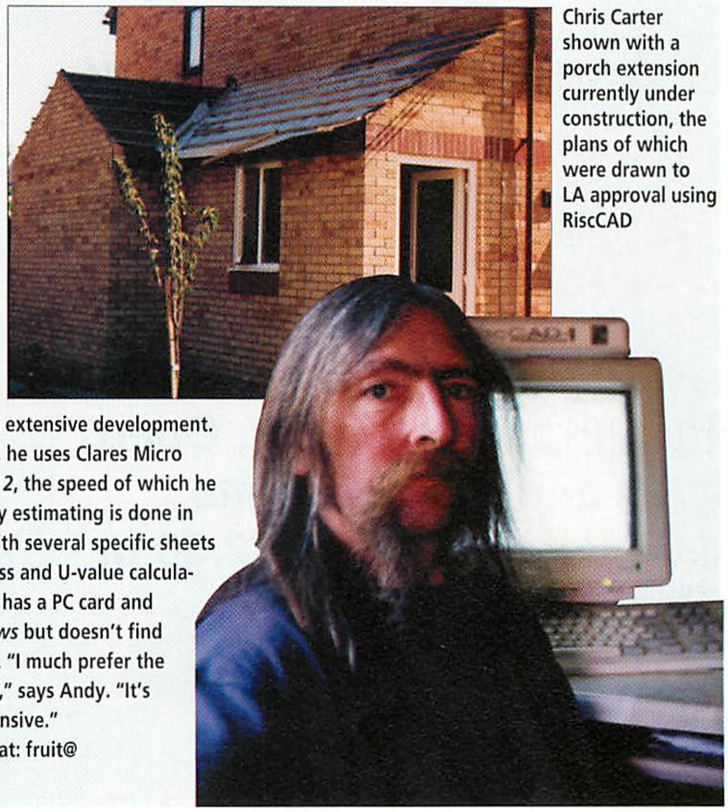
As a member of the Federation of Master Builders, I wanted to include the Federation logo (a *Draw* file) on all my

A long-term Acorn enthusiast, Andy started with an Atom, and has progressed through a BBC B and Master 128 to his present Risc PC which he bought along with a Kaga-Taxan printer. The clean format of his estimates and letters impressed more than a few people. He wasn't at all interested in an Archimedes when it came out: "I could do everything I needed on my 8-bit micro, without a mouse or pretty screens. Surely the mouse and pictures to click on were only for people who didn't know how to use computers, I thought."

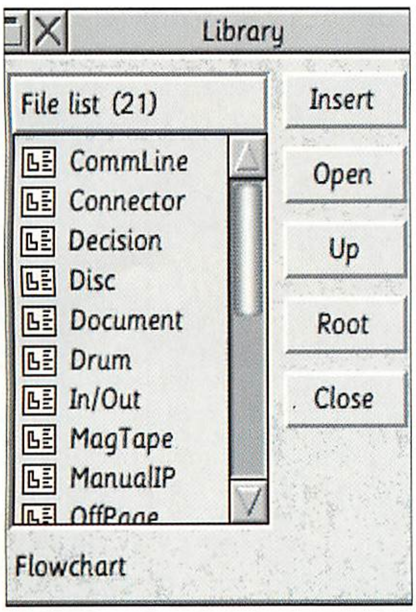
Seven years later, in 1994, he was considering purchasing another computer, possibly a Wintel PC. Then, when reading one of his son's Atari magazines, he noticed an advertisement for Acorn's new machine, the Risc PC. "I phoned Acorn, asked them to put the bumph in the post, and meanwhile called in at my local dealer. Two days later I ordered one and the rest, as they say, is history. Three years later and it's still a great machine. It now has a StrongARM processor and a larger hard disc. It's very responsive and all my software works reliably, quickly and efficiently."

Prophet 3 is used for the accounts: "All that's really necessary is to put in the figures in the right places. At the end of a quarter, a few key presses and the VAT is done for me." Although a one-time *Impression* user, he has progressed to *Ovation Pro* for letter writing because of its expandibility and extensive development. As a spreadsheet, he uses Clares Micro Supplies' *Schema 2*, the speed of which he praises: "All of my estimating is done in *Schema*, along with several specific sheets set up for heat loss and U-value calculations." Andy also has a PC card and Microsoft *Windows* but doesn't find any use for them. "I much prefer the RISC OS interface," says Andy. "It's much more responsive."

Andy Carter is at: fruit@argonet.co.uk



Chris Carter shown with a porch extension currently under construction, the plans of which were drawn to LA approval using RiscCAD



Commonly used symbols can be designed and made available from the Library window

plans. A stand-alone utility (*RiscDraw*) is provided to import such files, but I was disappointed that it ignored the fill colour, meaning that I had to manually add this in *RiscCAD* myself (Davyn says this is because *Draw*'s fills are done as a flood fill and so there are no actual objects within a *Draw* file to represent them).

DXF files may be imported and exported via another utility, *RiscDXF*, which allows files to be exchanged with users of other CAD packages, including *AutoCAD* on the PC.

Conclusions

RiscCAD Professional initially has a steeper learning curve than programs like *Appolonious* or *ProCAD*, and I would prefer if it followed RISC OS conventions more closely. Nevertheless, when you know why the interface has been designed the way it has, it becomes second nature. A demo disc is available for £5, which is refundable against the full price.

During the writing of this review, the author has reminded me that *RiscCAD* has ultimately been designed for the person who has to use the package day-in, day-out. It meets the real needs of a business and, as long as you accept the present (minor) limitations and are prepared to spend time learning how to use it, you will not be disappointed.

The software will not do 3D rendering itself, though this can hardly be a criticism considering the software's relatively small asking price. However, it should be possible to import projections easily into a program like Spacetech's *TopModel*, by transferring them as *Draw* files. Since *TopModel* is possibly the best 3D modelling package for any computer, a combination of that and *RiscCAD* would make a incredibly impressive CAD system, and at a low cost.

The redraw speed of *RiscCAD* is remarkably swift. Admittedly, I am running it on a 200MHz StrongARM Risc PC but, even considering that, it is very impressive. The reason for the speed is that much of the program is written in assembly language. In our real-world testing there was, however, no noticeable speed difference between it and *ProCAD*, which is written in C. Nevertheless, both these programs were dramatically faster than *Appolonious*, which is written in BASIC.

Davyn are keen to emphasise that *RiscCAD Professional* recieves the most development time of all the Acorn CAD packages. Certainly the author has a reputation for implementing user requests. Telephone support is totally free, unlike with Minerva's *ProCAD*.

The software is reliable – throughout *Acorn User*'s comprehensive three-month testing, *RiscCAD* did not crash or go wrong in any way. I was wrong to opt for a PC for CAD; it is much more productive to work with *RiscCAD*, which I now use.

AU

Product:	RiscCAD Professional
Price:	£250 inc VAT
	£200 inc VAT (Education)
	£581.62 inc VAT (Site licence)
Supplier:	Davyn Computer Services
Tel:	(01924) 254800
Fax:	(01924) 258036
E-mail:	sales@davyn.demon.co.uk

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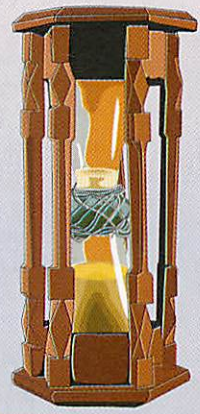
The Datafile
PO Box 175
Weston Super Mare
BS24 4PU
Tel/Fax 01934 644046
http://www.datafile.demon.co.uk
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DRAW_Changer V2

The Draw File Effects Processor

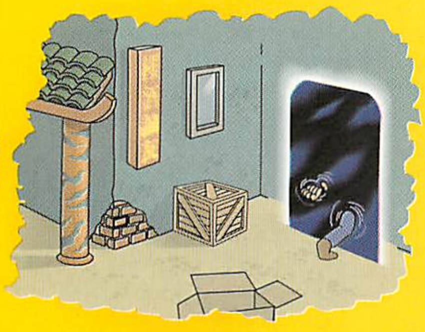
This application allows the user to change the line and fill settings of a Draw file to achieve effects that, on a large complicated file, could take hours of editing in Draw.

Only £19.95 from The Datafile

£19.95 EMOTIONS **£19.95**

SEARCH FOR HUMANITY

Emotions requires a Risc PC with at least 5MB of memory & 1MB of VRAM is recommended



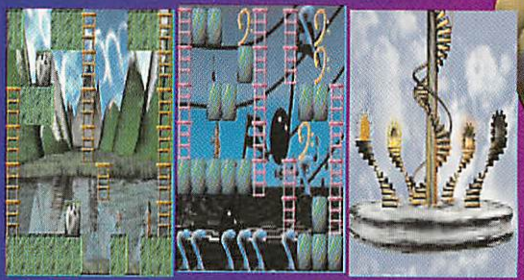
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Impressions of Acorn World 97

Well, another Acorn World is over. After all the upheaval when the original organisers EPS pulled out, Kerri Davis, Product Marketing Manager from Acorn, stepped in, took over and managed to co-ordinate a successful show.

Kerri comments on her experiences while organising the show, "The many obstacles we had to overcome to put this show on really allowed Acorn to pull the whole industry together. The support and assistance the community gave to me personally was very encouraging and this is undoubtedly why the Acorn community thrives year after year.

"The success of the show in '97 really highlighted how healthy the industry is and how we should progress for '98. With Acorn in control, it places us where we should be – leading and supporting the industry for long-term future growth"

Visitors to Acorn World this year totalled over 8000, with 2600 people attending on Friday, Education day. Saturday was busiest, with 3950 visitors and Sunday saw another 1800 people through the door.

Acorn's stand was surrounded for the full three days by visitors keen to see the range of developments and partner products on show – some for the first time in the UK. The Technology Showcase Cinema held regular showings of a short video covering the future of Acorn and their commitment to their product foundations. Judging by the queues, this was a popular new addition to the Acorn stand.

As announced last issue, Acorn were giving away Acornsoft beta software to Clan members – over 4000 people decided to take Acorn up on their offer and have now got the opportunity to submit their comments to Acorn themselves via the Acorn website.

The Show Theatre provided a range of seminars and presentations from various members of the Acorn community. Although the theatre was large enough to accommodate most audiences, the Chris Cox and Peter Bondar show attracted its usual huge crowd leaving very little standing room even. This year's live video link behind the theatre gave the overspill the chance to see the talk – another welcome addition for those who couldn't get a seat. ➤

Many thanks

Acorn User would like to take this opportunity to thank all the companies who donated prizes for the *Acorn User* Charity Lucky Dip. As ever, the queues were enormous with those taking part digging deep, in the hope of drawing the star prize ticket of a PocketBook each day. In total, £653 was raised for the British Red Cross.







Here's what some of our regular contributors thought to this year's show.

Mike Cook: Hardwired

You can think of the Acorn World show in two ways – the products and the people. This year, in the absence of any blowaway products, it was the people who dominated proceedings. That's not to say that there weren't any new products, but there wasn't a big one.

True, Acorn were showing prototypes that promised good times ahead and there was a smattering of interesting software utilities and applications, but my overwhelming impression was that of the people.

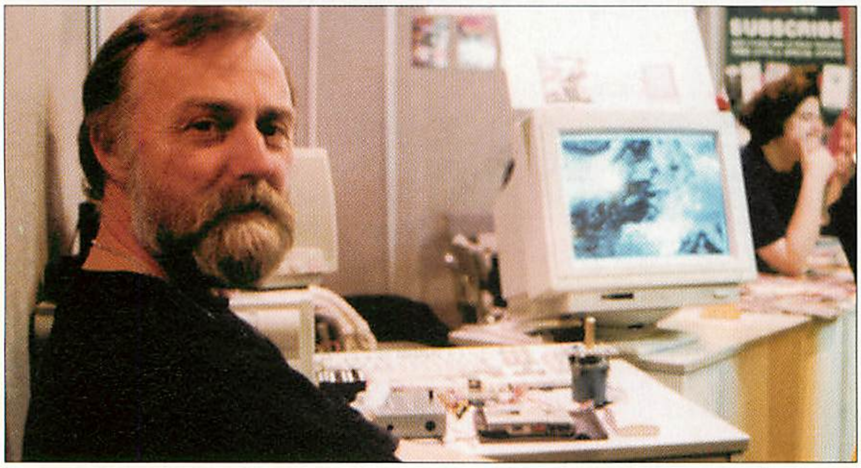
At an occasion like this it is always nice to meet old friends, both stall holders and visitors alike, but it is great to meet new friends. Thanks to everyone who introduced themselves to me, it really does an author good to know that someone out there is listening.

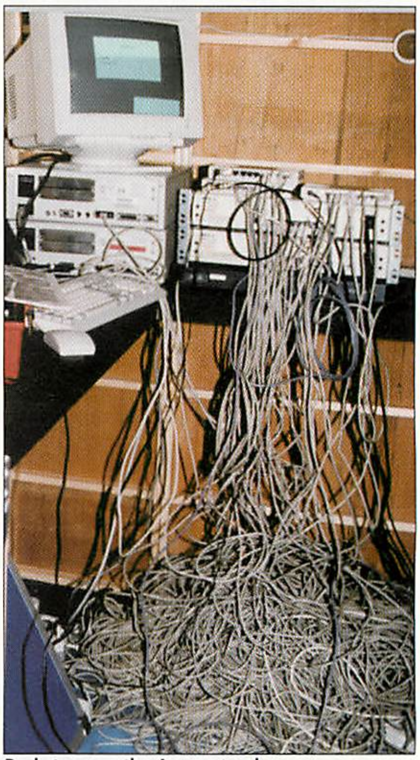
I spent most of my time demonstrating the weather receiver set-up and my first go at a force-feedback project – a crude graphic program of a bat hitting a ball, but what was different was that as you turned the control to hit the bat you could feel it hitting the ball. The expression on people's faces is what makes it all worthwhile. Generally they started out puzzled as they watched others – *what was all the fuss about*? Then I would explain what was going on and they would look incredulous. Next they would try it themselves, with a look of surprise as they felt the ball.

Saturday, the middle day, saw the most visitors, but for me the two quieter days were busier as more people wanted to chat at length. Talking to a few traders, it seemed they took the most money on the first day, as people had saved up during the year for a big spend.

On the software side, the big highlight for Clan members had to be the Acorn beta release software CD – it's chock full of Internet stuff and a copy of their FTP site. One of Acorn's programmers said that the only way he knew what version of his software was currently released was to look on the FTP site – no one ever told him.

The other interesting aspect of shows is the nightlife in London, but the less said about that the better, see you at the next one.





Backstage on the Acorn stand

Mark Taylor: A portable perspective

Turn the clock back a few months to the first Acorn World '97 press release announcing that Acorn's new portable would be on show, along with details of pricing and availability. From a portable point of view this show looked like being a 'must' and expectations were high...

So how did things turn out? On the surface, the show was a bit of a disappointment as the star failed to make an appearance. The much-hyped portable, as had been reported prior to the show, was not the answer Acorn's client was after and the project had been put on hold. However,



scratch the surface a bit and the show was actually quite promising. It appears that although the portable has been put on hold – according to Peter Bondar (who should know) – there is a very good chance we will see its release sometime next year.

The reason for the delay is that Acorn are working on a number of projects for the same client and one of these has, for now, been given priority over the portable. Maybe it will turn up at next year's show – after all it is fashionable to be late.

Xemplar had the Apple eMate on show which finally gave me the chance to have a good play, and quite impressed I was too. The machine has been specially designed with children in mind and has numerous nice touches such as a semi-transparent case so the electronics are visible, a steel chassis enabling it to survive the odd drop and a large carrying handle. Despite all this, however the machine is equally suitable for adults as it is effectively an Apple Newton with a keyboard.

The big news at the show was that Xemplar are well on the way with developing link software for the Acorn. This will enable eMate users to link their machine to all three major platforms with the minimum of fuss. More news and a full review of the machine and link software as and when it becomes available.

It also emerged that three Acorn companies – IMS, Paul Vigay and DesignIT are all developing links for the Psion S5. This will finally allow Acorn users to connect this excellent machine to the RISC OS desktop. Again, more news as I get it.

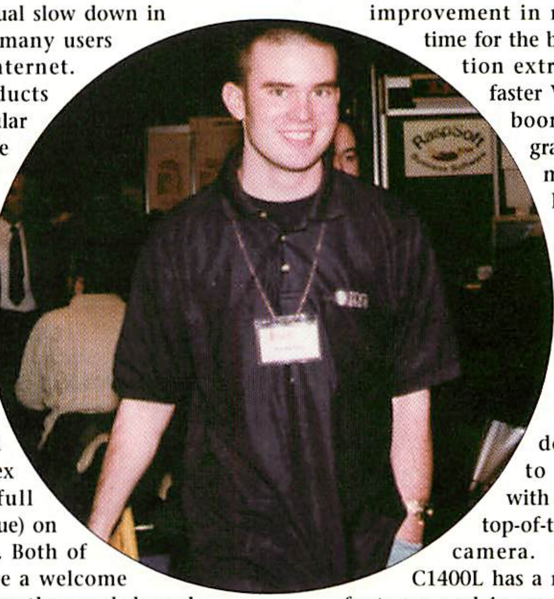
HS Software had on sale, and were demonstrating, the Pocket Book and Series 5 versions of their excellent *N-Store* record keeping system. I'll be taking a closer look at the S5 version in my next column.

Overall, this year's show wasn't a bad one for portable users. Lots of potential and promise and that has to be good news for us.

Paul Wheatley: Going public

My favourite part of Acorn shows is getting to meet all the people I've spent the last year chatting to on e-mail. Acorn World finally gave me a chance to meet one of the most talented coders on the scene – Frederic Elisei.

The gradual change of the PD scene was demonstrated clearly by the two PD stands at the show. Both the Datafile and APDL have seen a gradual slow down in PD disc sales as many users move to the Internet. Alternative products proved very popular however, with the excellent value of PD CDs drawing in the crowds.



Games were also in evidence on the PD stands, with a new CD-based platformer from the Datafile and *Exodus* from Artex Software (see full review in this issue) on display at APDL. Both of these games were a welcome improvement over the much hyped but disappointing *BHP* from TBA Software. I really hope these great PD libraries can hang in there and keep on providing us with an excellent service.

The rest of the show was a little disappointing in terms of new products, but interesting developments could be found on the Acorn and Spacetech stands.

The highlight of the show had to be the fantastic HandyCombi which was demonstrated on the Acorn stand by Korean developers from ETRI. It was great to chat to programmers with such enthusiasm for the Acorn platform. Let's hope their technology demonstrator will find its way to the high street as a complete product before too long.

The bad news on the Acorn front was the indication that the new Risc PC II technology wouldn't be available as an upgrade for new machines. The spec of the new hardware does sound worth the new computer price tag however, with a likely three times improvement in memory access time for the bus (not to mention extra VRAM and a faster VIDC). This is a boon for computer graphics programmers who now have a very nice processor in the StrongARM, but still face the frustrating bottleneck of the existing bus.

Spacetech were doing their best to tantalise me with a gorgeous new top-of-the-range digital camera. The Olympus C1400L has a massive array of features and is capable of taking incredibly hi-res 1280x1024 pictures. Unfortunately it's just a touch out of my price range at the moment...

IMS deserve a special mention for designing their own stand which was rumoured to be based on a pyramid of Fererro Roche chocolates (and yes, it was exchellente). So how did those Risc PCs run Microsoft CDs without a PC card, guys?

On a final note, it's nice to see the Acorn community finally catching up with support for Java in Acorn browsers, as well as some very nice editors and HTML savers like the new add-on for *Textease*. ➤

Ian Burley: New news

Every year it's like a family reunion. So many people in the Acorn industry are on first name terms – it's so refreshing compared to other IT events I have to visit. There were new names as well as old. Stan Boland, Acorn's new finance director recruited from ICL Sorbus, was witnessing his first Acorn World and he was suitably impressed by the level of commitment from both third-party vendors and the punters. He also remarked to me how many young people there were at the show – a good sign as he had wondered if the Acorn masses might mainly be war-weary loyalists from the good old days.

In fact, there's plenty of new blood – as demonstrated by the A7000 portable exhibited on the Oregan stand. This was a university project by Paul Gammans, a friend of an Oregan's staff member, which mated an LCD screen to the innards of an A7000 to produce a custom-made Acorn portable.

Talking of portables, Cannon Computing, fresh from their acquisition of Cumana, had a stock of brand new Acorn A4 portables on their stand. Apparently enough parts were found to build a batch of 20 A4s, despite the fact they haven't officially been in production for many months. Nigel Cannon told me he had originally been offered the whole batch, but later Acorn seconded the lion's share and his stock of seven, priced at £499 each, was snapped up in next to no time.

Meanwhile, it was good to see Eidos making another appearance at the show. Considering the founder of Eidos, Stephen Streater, owns a huge share of the British computer games production market and could probably retire in much luxury on his current wealth, making Acorn hardware do amazing things with multimedia remains a personal passion of his. This time Eidos were showing their Eye video-conferencing prototype for use over ordinary phone lines – very clever stuff.

Acorn were demonstrating some clever things as well, naturally. The Risc PC II prototype was there as promised and looks like it'll be delivered by the middle of next year. The new StrongARM CoNCord NC was there, looking like a spare part from Thrust SSC. Plus there were some charming Koreans showing off their RISC OS skills in developing a multimedia map system with touch-screen input, voice recognition and graphical/writing recognition to boot.

You can always worry about whether Acorn's future is secure and whether as many people came to the show this year as last year, and so on. However, my lasting impression was that Acorn's technology has succeeded in proving their many detractors wrong once again – at Acorn World the proof was there to be seen by all.

Dave Lawrence: Star information

For most visitors, the highlight of Acorn World '97 was probably the new technologies on display on the Acorn stand. The new Risc PC is certainly going to be an interesting machine. I myself was fairly clued up on the kit having attended the developers conference a couple of months back, so nothing ground-breaking there. New style NCs, video phones and a good showing of other ARM-based gadgets were also interesting.



Walking around the rest of the hall (which seemed to take a worryingly small amount of time) the gist of the show seemed to be 'imaging', whether it was Eidos's top end video edit suite or a rather nice Olympus digital camera courtesy of Spacetech.

SCSI also seemed to feature highly with Castle, AlSystems and Eesox all demonstrating high-speed cards. Next year I imagine we'll have Adaptec PCI drivers for RPC2 to add to this list.

One thing that has become noticeable over the last couple of shows is the slow ebbing of big names such as Computer Concepts (to name but one). They still had a stand, but no new products were apparent. On the other hand, companies such as Argo seem to be growing all the time.



Despite the decline of CC in the Acorn market, it is good to see them still attending the shows along with all the old faithfuls from year dot – Clares, Beebug, Atomwide, Icon, Sherston et al.

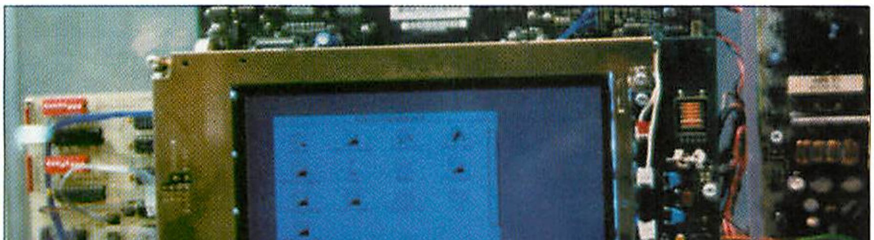
Games? Well, er, we still seem to be somewhat lacking. OK, we do now have *Doom* and *Quake*, but they are both at least a couple of years old now. If you want my advice, the best source of games at the moment is in the world of emulation – Sega, C64, Gameboy, Arcade, PCE – assuming you can track down the ROMs that is.

To sum up, I felt it was a very subdued show, perhaps everyone is waiting for the new machine. The best part? saying "Hi" to everyone you only ever see once a year. The worst part? Missing a meeting in the upstairs restaurant as my *Acorn User* exhibitor's pass apparently didn't rank higher than a Clan member card. Next year? Maybe we should have ARM World '98 instead, then at least all the surreptitious Newtons and Psions could be put proudly on display!

Pam Turnbull: A learning experience

Friday was Education Day again this year, with a range of seminars putting forward a teacher's perspective. Xemplar had a section of the Acorn main stand on which to show off the *Junior Toolbox* which is now available for Acorn machines, and allow Mac-sceptics to have a play with the new green portable beast – the eMate. Using Newton technology, this uses IRDA to communicate with desktop PCs and Macs as well as printers, the new Risc PC 2 looks like it will play along too.

On the software front, Sherston had *The Map Detectives* and their *Tots TV* licence for younger users – no sign of *Teletubbies* from anyone yet. A glance at the TAG Developments stand revealed their excellent *Hyperstudio* and also *101 Amazing Things to Do with Your Computer*. This CD-ROM will be available for RISC OS in January and combines a hardback book of ideas such as digital codes with things to make such as ➤



A custom-made A7000 portable



Andi Flower from The ARM Club finds it all just too much!

flying machines and ID cards, plus a glossary of terms. Aimed at anyone over seven years of age, it could make a good late Christmas present. TAG are also developing *Elmer,* the patchwork elephant much loved by small children, with a BETT release in mind, special emphasis is being placed on developing this for children with hearing difficulties in mind.

If you've been taken with the graphics on RESOURCE's *Rainbow's Edge* series, the same artist has had his wicked way with two new programs aimed at school and home – *I Can Spell* and *I Can Write.* Still under development they look very promising, with easily edited wordlists making them especially useful in the classroom.

Elsewhere SEMERC were showing off the kid-friendly graphic tablet attachment to the excellent *Claude & Maude.* However, further delays with the *Macromedia Director*-reader software from Acorn mean that those of you wanting RISC OS versions of *Wellington Square* will have to wait.

Clan Members were happily clutching a CD-ROM of beta-versions of forthcoming software one of which is *The Browser* which is Java compatible and gives RISC OS access to some educational websites previously closed to us. Hidden away on the Irlam stand was a useful package *Album* which allows you thumbnail access to images in a directory, this time-saving program will be a boon to anyone creating presentations or websites.

All graphics and DTP news from the show can be found on the Graphics page.

AU





Acorn User Awards 1997

Voted for by our regular contributors:

Best graphics package:
DrawWorks 2 (iSV Products)



Best DTP software:
Ovation Pro (Beebug)



Best business software:
Schema 2 (Clares Micro Supplies)



Best music package:
Midiworks (Oregan Developments)

Best local network package:
Advanced Level 4 fileserver software (Network Solutions)

Best education software:
Arthur (Cambridgeshire Software House)



Best Internet product:
Newsbase (Graham Allan)

Best PD software:
Iron Dignity (Frank Fohl)

Best hardware:
A7000+ (Acorn)



Best Programming tool:
WimpBasic (Clares Micro Supplies)

Reader awards

Best Product:
Ovation Pro (Beebug)

Best Advert:
Alsystems – Been stopped for speeding..

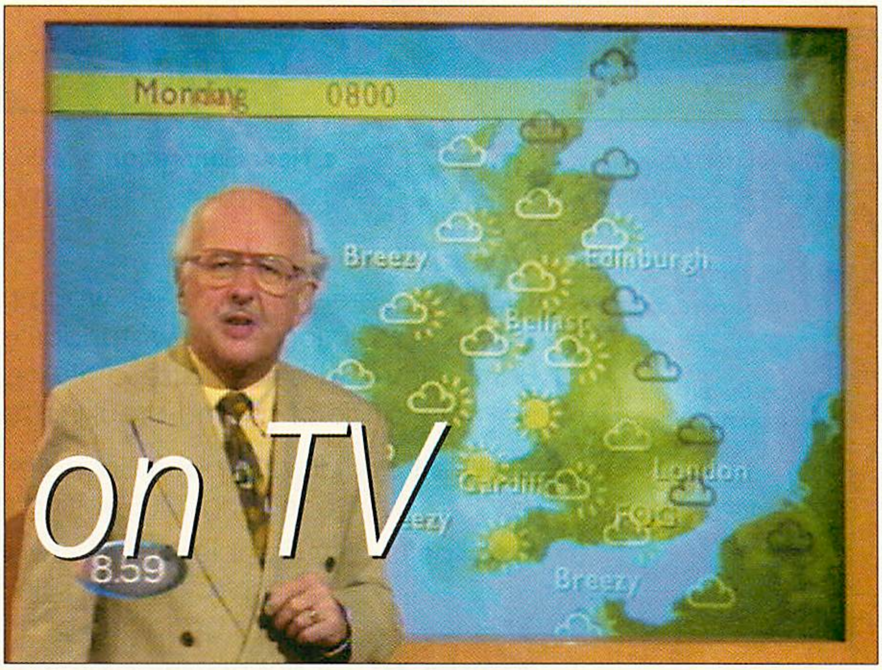


Best Article:
David Matthewman – HTML explained series

Best Dealer:
Desktop Projects



More on TV



Mike Cook tests out the latest additions to RiscTV

RiscTV has been about for some time now but the latest additions make it well worth a second look. The basic premise is simple enough – a television you can have on your desktop. But why bother when for less money you can have a nice little portable TV set next to your computer draining no resources from it whatsoever?

Well, the name of the game is interactivity. With RiscTV you can have a TV and use it to feed information into your computer. For example, you can capture still images in monochrome or colour at the resolution of your screen. You can then, copyright permitting, incorporate these into your own work. You can use the system for recording animated clips and save them as Replay movies. Finally you can switch over to teletext and save the pages you find as either text or sprites. If you want to do any of this you should seriously check out this system.

Installing involves plugging in an expansion card and making a flying lead connection to the motherboard. You also need to disconnect your monitor, plug it into the card and plug the flying lead from the card into the original monitor socket. This last point was not mentioned in the instructions. You also need to make some provisions for sound, either mixing it in with the internal sound or feeding it into external speakers. The manual refers to separate fitting instructions for this but unfortunately I didn't get them.

The software is simple enough, with a single application for most setups or an additional one for A5000 users. If you do have one of these machines, state it when ordering as one of the flying leads is different. This lead allows the TV window to be partly obscured by another window.

I found the teletext worked well even on a makeshift aerial but using a properly mounted external aerial produced really solid results. Sensitivity was better than my Sony domestic set, it produces a much better picture on the rather marginal Channel 5. Teletext also has a fastext facility that allows a simple colour coded page access system for those who find the Teletubbies an intellectual challenge.

In short, it works just like the real thing, if fact a bit too much like it. What would be nice is a system that downloads the whole database in one go and then allows you instant access to any page. On many pages there is a cycling system that puts several related pages on the same page number and there is an option to capture all the different pages which is great. What is not so great is the fact that the computer single tasks while it is doing it, so you can't do anything else. This can hang your computer for up to 10 minutes, I am sure there is a better software solution.

On the video side you can save the video and sound in a number of different formats, each one having a storage/quality trade off. Unfortunately the manual makes no mention of the relative merits of each, although the audio options are slightly better described.



I found that with my Risc PC 600 with StrongARM processor I couldn't record directly to disc at all, this may have been due to sector fragmentation. Recording into a RAM disc allowed me to record at the slower speeds although if the RAM disc was too big there wasn't enough free memory elsewhere in the system and attempts to record crashed leaving an open file.

These problems are greatly alleviated by reducing the image size you want to capture. The results were slightly disappointing when compared with a similar system on the Apple Macintosh although you do have much more control here. For example you can choose the audio source from either the Nicam stereo sound, from the computer's output or from an external phono socket. Similarly, the video source can be that from the TV tuner, composite colour or S-VHS.

Summary

The system hardware is built to a high quality with the software doing an adequate job, but it could be improved especially on the teletext side. I felt that the manual was poor, not describing the functions and choices adequately or technically enough. You require quite a bit of free RAM to get the best out of the system but the results are definitely impressive. Remember you will need a good TV aerial, but you will have opened up a vast source of multimedia information – copyright permitting. AU

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Tel/Fax:	01895 811401
E-mail:	sales@irlam.co.uk
Web:	http://www.irlam-instruments.co.uk
Requirements:	Hardware A5000, A7000, A7000+ or Risc PC with free expansion slot, 2Mb RAM minimum

NC steals the show

As expected, the main focus of the Acorn World show was the NC which was featured on the Acorn, Oregan and Argonet stands. Argonet had a four NC network running from a single telephone line (not even an ISDN line) and proved that the system is very fast.

The NC is being hailed as the computer of the future with suggestions that it might replace conventional desktop computers. If that is the case, I think there will need to be a great deal of development before we start throwing conventional computers out of the window.

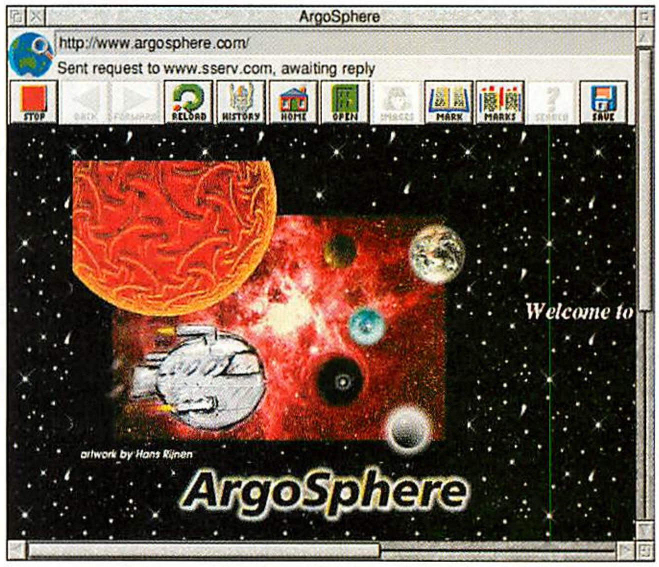
The price is also rather high, I feel. On the face of it, £300 sounds reasonable but you'll need to add a monitor and, ideally, a QWERTY keyboard. To get the best from it, you'll need a keyboard with infrared link to prevent you being restricted to the length of the connecting cable from a conventionally wired keyboard.

Then add on the cost of backing storage and you're fast approaching the cost of a desktop computer which, at present, is rather more versatile.

I don't want to throw cold water on NCs, however – as there are some exciting things happening with them. Java applets will eventually come, but they're not here yet. *NC Works* – a sort of wordprocessor, spreadsheet application is in beta test form and looks promising.

My main concern is still with the nature of the Internet – that needs to be sorted, and soon.

Junior Internet



On a dissimilar, although tenuously related subject, Argonet are about to officially launch Argosphere. Argosphere is a website aimed specifically at education and at 5-13 year olds in particular. The site contains numerous activities designed and developed by Mike Matson under the direction of Ian Goodall of Argonet. Mike, as many of you will be aware, is responsible for some truly innovative software marketed under first the 4Mation banner and latterly as part of Sherston. The artwork is by Hans Rijnen and is quite superb.

The site is still under development and has not yet been officially launched but you may preview it on http://www.argosphere.com

The activities can be downloaded and you need only a browser to view and to use them. This both keeps the cost down and ensures that as many users as possible have access to the material.

Currently there is a full-length novel for teenagers – *A Dragon Unleashed*. There is a story for under-9s – *The Visitor*, which is an illustrated tale about an alien who visits Earth and is amused by the crazy things that humans do.

Pooh Bear websites are numerous and are essentially linear pages which are read like a book. Pooh Country offers much more, including activities like correcting mis-spelled words and an introduction to maps. Ask Oleg is another new idea. Oleg Chernavin, who works at Saransk Power Station No.2 in Russia, answers questions about life in Russia.

This is intended to be a constantly updated site and will contain several activities suitable for the given age range. One thing is certain, with Mike Matson running Argosphere you can be sure of some sound (if not slightly 'off-the-wall') educational material.

I'm have to say that I've never been really sold on the idea of the Internet either at home of school but this has certainly caught my attention.

Cheap modems get cheaper

I really don't want to make this an Argonet only page, but if I'm to provide the news which I perceive as being of the greatest educational significance in the Acorn arena, it has to be Argonet again.

Clearly Ian Goodall is determined to get everyone online at almost any cost, and it seems that each month he comes up with yet another mouth-watering scheme to tempt us. Hot on the heels of the 33K modem with three months online for £99, we now have the 56K modem with three months online plus all the bits and pieces you need (including stereo headset) for £149.

If you're already online and want a faster modem, Argonet is offering the same 56K model for £119.95 or £99.95 if you trade in your old modem, working or not. If you're not online, I doubt you would get a better deal from any other Internet Service Provider. The premier service is £11.75 per month which includes up to five e-mail addresses, a whopping 5Mb of Web space to create your own website, free telephone help and UK local telephone rates.

Argonet may be contacted on 0500 585586 or e-mail info@argonet.co.uk

Contacting me

You can contact the Education page by writing to me, Geoff Preston at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP or by e-mail to: aueduc@idg.co.uk

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100 Sheets Epson 720dpi	£12.99
200 Sheet Canon Hi-Res	£24.99
500 Sheet HP Bright White	£10.99

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30x	£9.99	200x	£49.99
50x	£14.99	500x	£114.99

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10x	£3.99	100x	£29.99
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50x	£23.99	500x	£189.99

500 Disk Labels	£6.99
1000 Disk Labels	£9.99

All prices are inclusive of VAT @ 17.5%

A welcome return for Spex

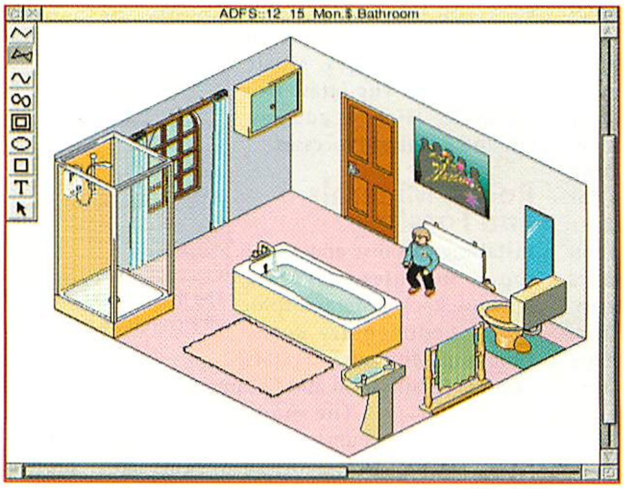
Geoff Preston discovers what the new Spex+ environments have to offer

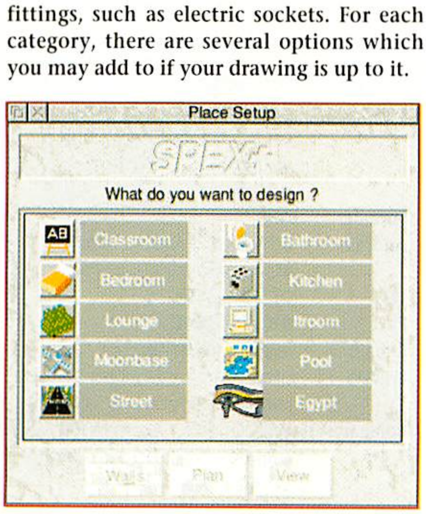
It's been a long time since I first reviewed *Spex*, so when the latest version, *Spex+* landed on my desk recently, together with some new environments, I was keen to see what had happened to it.

3D design

Spex+ is a 3D modelling program which enables the user to produce full colour three-dimensional designs from one of several 'environments'. An environment is an application containing details about the area, and a number of drawings of items to go in that situation. *Spex+* is supplied with the *Home* environment enabling the user to design the kitchen, lounge, bathroom and bedroom. Although the environments are self-contained, it is possible to incorporate items for one environment into another.

Spex+ is now installed from an installer rather than simply being copied from the distribution disc. Once installed, the environments need to be copied into the same directory. When run, *Spex+* will ask you to choose which environment you wish to use. Once selected a default size of the environment is given with the option of either keeping it the same, or entering your own sizes. You should then select the 'Walls' option and position the 'non-movable' items – doors, windows and miscellaneous fittings, such as electric sockets. For each category, there are several options which you may add to if your drawing is up to it.





Next, by selecting the plan view you can position items of furniture around the room. Items may be rotated and dragged into the desired position. Apart from furniture, this section also includes people and pets and assorted hardware such as cups and lamps.

Once the pieces have been positioned, selecting the 3D view will display the room as an isometric view. The two closest walls will have been removed enabling you to clearly see the whole floor area. Doors and windows positioned on the missing walls are shown in outline.

The positions of any of the items can be changed by returning to the plan view and either moving the item or discarding it.

Another interesting feature of this software is that it also keeps track of the prices of the items used and a spreadsheet can be displayed showing the cost of furnishing the room.

Once complete, the work can be saved as a *Spex+* file in which case it can be further edited, but it can also be saved as a *Draw*-file which can be disassembled and scaled without loss of detail.

High quality

What impressed me most when first reviewing *Spex+* were the high quality drawings. These were produced in *Draw* in 256 colours and were very detailed. The environments have now been completely re-worked and are even more impressive. They contain significantly more detail, and yet some draw much faster than previously.

All new environments

I could have described *Spex+* as an interior design program and in fact that is exactly how I introduced it when I first reviewed it two years ago. That term can no longer be applied because *Spex+* also has some environments which clearly do not fit into that category.

Moonbase, *Street* and *Leisurepool* are three environments which enable students to model large areas. Moonbase, as the title suggests, is a futuristic setting on another planet. What the title fails to imply is that it is an ideal tool for studying structures. *Street* is an ideal tool for an environment project. Here you must apply sections of road and add buildings, pavements and other street furniture.

For those opting to study The Egyptians in Key Stage 2 History, the *Egyptian Tomb* is an excellent way of developing the topic enabling students to produce high-quality colour drawings.

Aspex Software now have a full-time graphic artist turning out a new environment each month. By the time you read this, *Shop* will be available. This includes all the paraphernalia for a supermarket, service station, chip shop and restaurant. AU

Product details

Product:	Spex+ with Home environment disc
Price:	£39 for single user, £99 for primary site licence and £149 for secondary licence
Also:	*Egyptian Tomb, Classroom, Leisurepool, Street, Moonbase, IT Room* and *Garden* – £29.95 each (all prices ex VAT)
Supplier:	Aspex Software
Address:	Heather House, Down Road, Tavistock, Devon, PL19 9AG
Tel:	01822 511060
Verdict:	Highly recommended for Key Stage 2 and Key Stage 3

Picture *this*

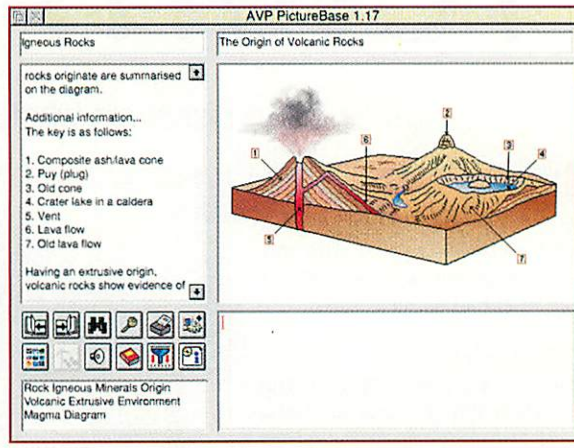
Geoff Preston looks at the two latest additions to the PictureBase series

PictureBase is a series of CD-ROMs which seamlessly fit together to provide a resource, limited only by the number of discs purchased. Each disc is supplied with an installation program which installs a 'control' program called PicBase on to the local hard disc. Each subsequent *PictureBase* disc is read by PicBase and details about the new software are added.

First time installation requires the user to access the CD and to double-click on PB-Instal. You must enter registration details and then choose the location for the *PictureBase* directory. Once PicBase has been successfully installed, it then searches through the CD-ROM and copies details about the topics contained therein.

Topics contained on subsequent *PictureBase* discs will be copied into PicBase and will appear in the list of installed topics, as can be seen in the illustration.

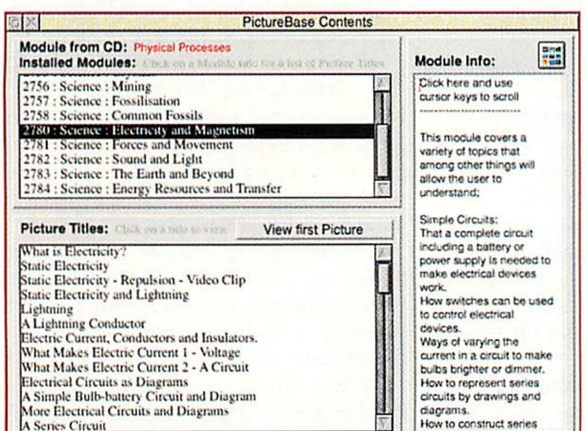
The list of *PictureBase* discs is diverse, extensive and expanding rapidly. There are currently 26 discs covering topics from Art, Geography, History, Modern Foreign Languages, Music and Science. The latest two are Rocks, Minerals and Fossils and Physical Processes.



The lively presentation of Rocks, Minerals and Fossils is typical of all PictureBase products

Rocks, Minerals and Fossils

Installing this disc adds eight topic modules covering Igneous Rocks, Metamorphic Rocks, Sedimentary Rocks, Common Minerals, Crystals, Mining, Fossilisation and Common Fossils.



Common Fossils belongs to one PictureBase, Electricity and Magnetism belongs to another, yet they can both be accessed from PicBase. If the required disc is not present, you're asked to insert it into the CD-ROM drive

The modules contain countless high quality pictures and diagrams to illustrate the text about common rocks and minerals. It describes their origin and some of the more important properties, thus allowing comparisons to be made. It also considers different aspects of mining and managing finite mineral resources. It provides examples and descriptions of fossil groups and helps with identification of specimens. There is an extensive glossary which can be added to by the user.

Rocks, Minerals and Fossils is suitable for Key Stages 2-4.

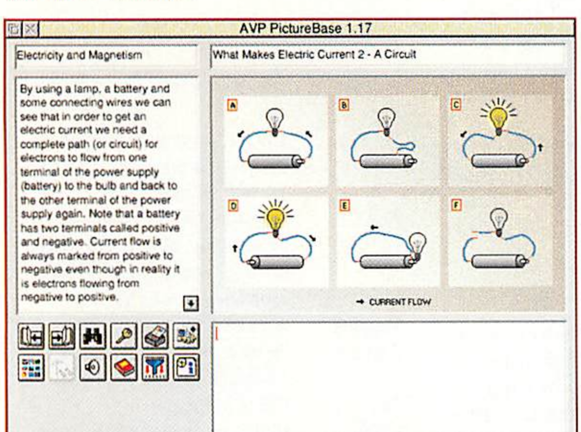
Physical Processes

This *PictureBase* disc adds five topic modules covering Electricity and Magnetism, Forces and Movement, Sound and Light, The Earth and Beyond and Energy Resources and Transfer.

The number of topics covered is far too great to list here, but I can't imagine there is anything missing.

Once again, the standard of presentation is second to none. The layout and quality of the pictures is superb and the text is very carefully written and accessible by children with wide-ranging abilities. Video clips are also included where appropriate and this helps in the understanding of electricity, forces and motion and light.

Physical Processes is suitable for Key Stages 2-3.



High-quality diagrams as well as photographs illustrate the text

Common features

The features remain constant for all *PictureBase* discs. The display, including the tools, is common throughout. The screen is divided into three main windows for a picture or diagram, some text and a space for the user to add notes. There are 12 on-screen buttons for searching for topics, for moving between 'pages', for printing or for accessing the on-screen help. AU

Product details

Product:	PictureBase
Price:	Each PictureBase CD-ROM costs £69 + VAT for a single user or £139 + VAT for a site licence
Supplier:	AVP
Address:	School Hill Centre, Chepstow, Monmouthshire NP6 5PH
Tel:	01291 625439
Fax:	01291 629671
E-mail:	avp@compuserve.com
WWW:	http://ourworld.compuserve.com/homepages/avp
Compatibility:	Will run on an Acorn or PC computer with hard disc and CD-ROM drive

Exodus

Steve Mumford finds a new home among the stars

Jan Klose of Artex Software is responsible for bringing us *Exodus*, a space-based strategy game designed exclusively for Acorn machines. The general premise is as follows: A group of downtrodden rebels have hijacked a spaceship and managed to escape the doomed planetary corpse of the Earth.

After 34 years slipping through the cosmos, the craft comes across a galaxy in the process of being colonised by four other races – their efforts are watched over by a station belonging to the Space Guild. Given a chance to participate, you are awoken as the chosen leader. Commanding the action from your vantage point on the starship, it's your duty to find a new home for your people.

As the game begins, you have control over the space fleet in which you arrived, comprising a starship with hibernation facilities and command suite, five warships and fifty transporters, each capable of holding one unit of cargo. The overriding priority is to find a new home for the population asleep in the ship's hold, so a trip to the Stardust Bar at the Space Guild station is in order – useful information about colonisable planets can be gleaned from the notice boards, and the barman's quite happy to speculate on various rumours he's overheard.

There's no place like home

Once you've made your choice on a galactic map reminiscent of *Elite*, flying to the target star can take a couple of turns, equivalent to two months of game-time. The journey can be hazardous, as pirates can lurk at the periphery of a star system, but they shouldn't be a problem for the first few flights.

Once the fleet has arrived at the chosen star, you'll be able to choose from one of its orbiting



Leading a lunar battle from the front

planets. As long as the ship's coffers are reasonably full, a colonisation party can be sent down to the planet's surface, and a settlement can be built to act as a production base in a manner similar to strategy games such as *Global Effect*.

Once this is in place, the population can be put to work gathering minerals, manufacturing units to protect their settlement or building various

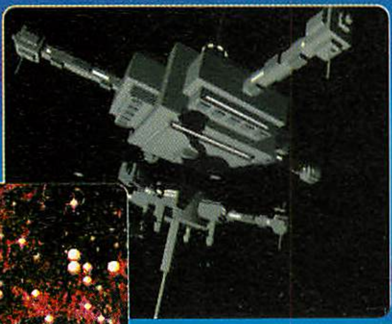




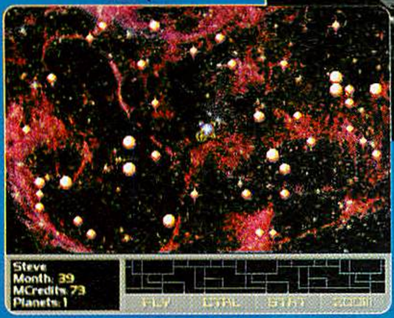
Two of the terrain types featured in Exodus

types of spacecraft to add to their fleet. The materials they produce can be traded *Elite*-fashion – periodically, the other races will visit to offer their own wares to your people.

It's possible to make allies with your competitors on various levels, although some races are more receptive to your persuasions than others. From there it's a matter of protecting your own interests and stretching your realm without attracting undue attention from the more militant lords and ladies of the galaxy.



The Space Guild station, hub of the galaxy



Choose your destination from up to forty star systems

Armed and ready

Although battles are inevitable, whether they happen to be against opportunist pirates in space or one of the other 14 leaders in the galaxy, the choice is yours as to whether you wish to take a personal involvement. Leave it to the ship's commanders, and they'll do their best to save the day. However, you get what you pay for, and the generals you start the game with are somewhat limited in their potential.

Hiring sharper minds requires cash, and you might want to try your hand at leading a few battles before shelling out the readies on a replacement. One of the nice features of the game is that the computer is always willing to give assistance during the battles, so you can follow its judgement while building up your own confidence.

Space battles are staged in realtime on a radar display and consist of selecting enemies for your craft to attack by using the mouse. Lunar battles are more complex, with a positioning phase followed by a lengthier combat section. Advantages can be gained in both of these types of battle by buying additional pieces of hardware, and there's a close balance between protecting your existing settlements and expanding your own domain.

The verdict

A gargantuan amount of work has been lavished on *Exodus*, and it shines through in all aspects of the game – I've only been able to scrape the surface in the space available. The pre-rendered cut scenes add a feeling of authenticity, but most importantly the gameplay is balanced and the separate elements tie in together beautifully.

What's more, at a price of just £25 and taking the game's great depth into account, it's a veritable bargain. It's been many a month since I've seen a title so deserving of praise- in terms of games design. The Acorn community has a bright new star to follow.

My sincere congratulations go to Jan, and I urge you all to hunt *Exodus* down and take a look. I can honestly say you won't be disappointed.

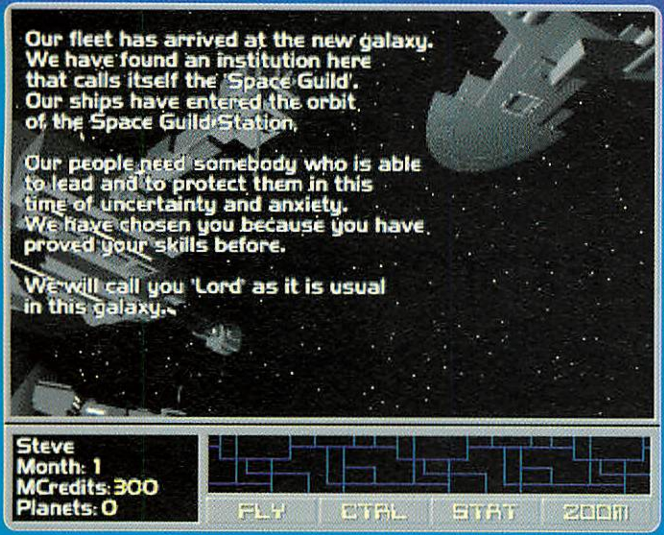
Product details

Product:	Exodus
Price:	£25 inc VAT
Group:	Artex Software
E-mail:	artexsoft@aol.com
WWW:	http://members.aol.com/artexsoft
Supplier:	ICS
Address:	1 Kington Road, Wirral, Merseyside, L48 5ET
Tel:	0151-625 1006
Fax:	0151-625 1007
Format:	3 x HD discs (DD discs available)
Requirements:	11Mb hard disc space, 4Mb RAM minimum
Pros:	Multiplay with up to 5 players (turn-based) • Game has plenty of depth • Good value for money
Cons:	Graphics resolution could be higher • Turn-based rather than realtime

SHOW

Artex chat

Following on from this month's review of *Exodus*, I took the opportunity to have a few words with Jan Klose about the birth of the game and Artex Software's possible plans for the Acorn games market.



AU: *How long did it take you to write Exodus?*
JK: Well, at least three years have gone by since I started, but in the beginning the game wasn't meant to become a commercial product. It turned into one after I received massive support from several other people, who have come together to form Artex Software. The major work was carried out in the last 10 months.
AU: *What prompted you to write it?*
JK: Whenever I've been playing titles for Acorn machines, there's been one question in my mind – 'Where are the strategy games?' I seriously miss those simulations in which you have to conquer or colonise something, such as *Defender of the Crown* or *Civilization*. Because of this I started to program one myself, just for fun.

Most of my friends liked the game even in its very first, hardly playable, version. The same effect kept manifesting itself – the game looked a bit difficult during the first few minutes of play, but after having conquered a planet, nobody wanted to stop. It's due to these test players that *Exodus* has so many different features. We collected all their ideas and tried to include them in the program. The sound tracks from Thomas (*Magnetoids*) Mohr add a great deal of atmosphere.



AU: *What's your favourite game at the moment?*
JK: My favourite PlayStation game is *Tomb Raider*, a product with both great design and superb gameplay. I'm afraid I don't have a favourite Acorn game as there aren't many around these days, but I'd love to see conversions (or even native titles) like *Command and Conquer*. I'm also eagerly awaiting the finishing of *Karma*.
AU: *What does Exodus have in the way of multiplayer modes?*
JK: *Exodus* can't be played over a network – there was no time to include that. However, you can play the game using the 'hot seat' method: Up to five people can play in turn. It can roughly be described as one player clicking on 'Next turn' to let the following player act.
AU: *Do you enjoy playing the game yourself?*
JK: I sometimes catch myself enjoying it, yes, and I'm always a bit embarrassed! After so many test games either I must be mad, or the game has some sort of long-term enjoyment potential. This might be because every game differs from the previous ones as *Exodus* uses many randomisation algorithms. I really don't want to hype the game more than it deserves; if we were to start programming it again, there would be many things I'd like to change. But, well, I'm a perfectionist.
AU: *Any plans for the future?*
JK: Artex Software are about to create another Acorn game - this one is meant to become a real blockbuster with 'professional' programming right from the start. As there doesn't seem to be anyone out there wanting to program strategy games for RISC OS, we'll make another one!

Exodus is a simulation; our next game will be a realtime strategy game, like *Command and Conquer*. Some of the planned features are high-resolution raytraced graphics, real film clips, and a game engine that's playable over the Internet. However, this game is far from release, and I don't want to make great announcements before we can be sure of presenting a fine product. I also have the intention of releasing small updates for *Exodus* if it's well-received.

Other news

GEK Programs, in association with *The Datafile*, have released a games bundle named '*Flying High*' - it's comprised of two titles, *EuroBlaster* and *Joust*. A demo of the former is available (it appeared on last month's CD-ROM cover disc) and it can be described fairly efficiently as a reasonable *Space Invaders* clone. The package costs £13.50 plus £1 for postage and packing – you can contact The Datafile by e-mail at *sales@datafile.demon.co.uk*.

Also appearing as a brief demo on last month's CD-ROM was *SunBurst*, the forthcoming game from *Visions of the Impossible* – the team that brought you *Super Foul Egg*. From what I've seen it looks like a two-dimensional space-based shoot 'em-up, but stay tuned for further details.

Get in touch with Nathan Atkinson for more information at *n.a.atkinson@durham.ac.uk* or take a look at VOTI's website at *http://www.rodean.demon.co.uk/VOTI.html*

You'll also find a program called *SACache* there – it's a utility written by Owain Cole to help control the StrongARM's cache. That's all for now, see you next month.



GAME SHOW

Cheap thrills with MAME

Graham Nelson inserts a lot of coins

Until 1980, 'arcade' meant only a covered passageway of shops (from the medieval Latin for 'arched'). Then there was a boom in stand-up cabinet video games, packed into darkened, noisy rooms just off the high street. Arcade games were the new pinball, the new fairground ride, and the technology was suddenly there.

The first stand-up games go back to the mid-70s, but were built in expensive low-production-runs: *Space Wars* (1977) had to use its own TTL-based central processor. Displays were also primitive, often using monochrome vector-graphics plotters rather than modern pixel-based monitors. From 1979 onward, the boom in cheap CPU chips – such as the Z80 – and memory drove down costs. Over 1000 models are listed in the collector's Bible, the KLOV or 'Killer List Of Videogames', from *Action Fighter* to *Zzyzzyxx* (I am not making this up). There's some evidence that Atari even built a secret version of *Battlezone* (1981) for the U.S. Army Tank Corps to use in training.

Most of the cabinets were of a kind: Two buttons, a joystick, a coin slot, a screen. Nowadays you really can simply replace one circuit board and repaint the box to change the game inside, thanks to a common standard called JAMMA. But in the richest years of the early 1980s, the last thing the makers wanted was for anyone to meddle inside. They issued unmarked circuit-boards, with customised security chips, and left surprises for the unscrupulous operator. Plug an *Asteroids Deluxe* circuit-board into an *Asteroids* cabinet and things seem fine, except that the controls are backwards, and you have to press 'Player 1 Start' to give yourself a credit, then insert a coin to start the game.

Game over...

The arcades closed in droves in 1983 and 1984. Memory and chips were now too cheap, and people could afford them at home. Even the BBC Micro offered blatant steals of the arcade classics – *Scramble* (*Rocket Raid*), *Defender* (*Planetoid*), *Panic* (*Monsters*), *PacMan* (*Snapper*), *Centipede* (*BugBlaster*). The industry all but collapsed. The old cabinets are now in a museum in St Louis, or auctioned as collector's items – in good condition a game fetches $400 to $1000, depending on its rarity.

The emulators are another fan community again, with a fringe operating on the edges of the law (emulating or reverse-engineering current home video consoles, for instance). ROM sets for all the classic arcade games are easily available from the Internet, but the writers of emulators are careful to distance themselves from any specific copyright violation even so.

The clear leader in the field is Nicola Salmoria's *Multiple Arcade Machine Emulator*, or *MAME*, now maintained by Mirko Buffoni. To simulate around 160 cabinet video games, it has to emulate all of the 8088/8086, Z80, 6502, 6809 and 68000 processors and every individual game has its own quirk, its own way of using interrupts or generating sound. The C source code is a monument to good organisation.







MAME copes equally well with vector or pixel graphics

MAME for RISC OS

MAME version 0.28, the latest, has been impressively ported to RISC OS by Gareth Long. You need a high-end machine to take best advantage – a StrongARM is advised – and about 5M of free memory. The program's physical size or 'footprint' alone is 1.6M. Another complication is that the format for storing video game ROMs is not simple.

Scramble is stored as a zipped archive of 13 ROM images (and so has a mighty footprint of 26K...), each of which has a specific filename, each of which is illegal under Acorn's disc filing system. So you really need to use these files straight from the archive, keeping *SparkFS* running whenever *MAME* is in use. (*ArcFS* won't do, and nor will *SparkPlug*.) All in all, *MAME* is fiddly to install and use. It comes with only a command-line interface, and you can't change the default keyboard controls, for instance.

However, Richard Cassidy has written a RISC OS front-end called *Player1*, which is a great help and after all the nuisance is done with, *MAME* works very nicely. When a game starts up, it behaves like a video machine just switched on, so it typically runs through a memory test for a few seconds, then puts up the title page. Press 3 and it believes that a coin has been inserted. Go on, press 3 a few more times and watch the credits pile up. You know you want to.

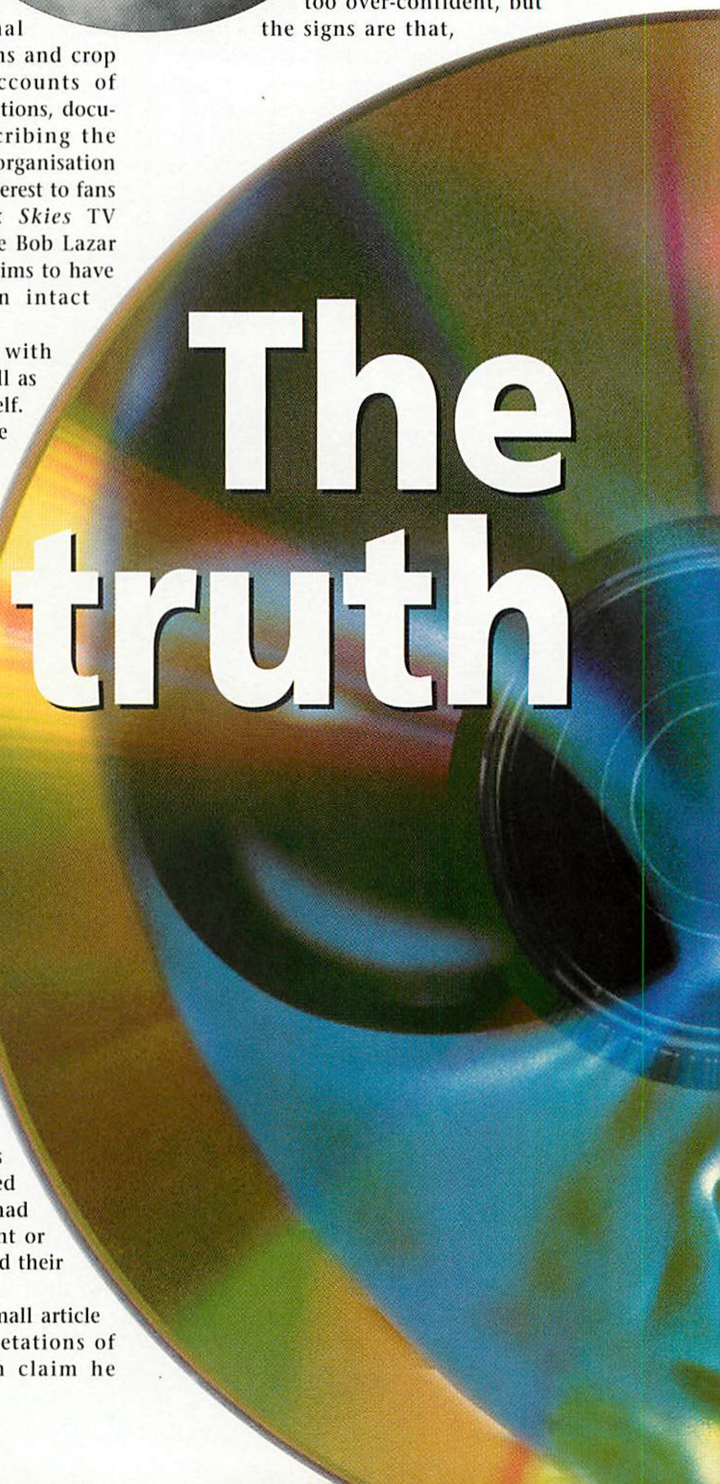
Once accredited, you can press 1 or 2 for a one- or two-player game, and you're away. Some of the early games, like *Scramble*, are ruthless and kill you in seconds, others, like *1942* are rather easy. Emulation is real-time and this makes some games very responsive, though keyboard cursor keys are no match for a heavy-duty joystick. Vector-graphic games, like *Asteroids* or *Tempest*, proved no problem. The only test I tried which failed was playing *Zaxxon* – I think because of insufficient spare memory.

MAME is evolving – version 0.29 was released literally while I was typing the above paragraph – and so is Gareth Long's RISC OS version. It's a nuisance to get started, but a spectacle when it's working, even if I have a vaguely guilty feeling about it. I owe somebody a small fortune in 10p pieces.

Web addresses

For RISC OS MAME:
http://www.elecslns.demon.co.uk/MAME/
For Player1:
http://www.fwservices.com/graphite/fun/
The official MAME home page:
http://www.media.dsi.unimi.it/mame/

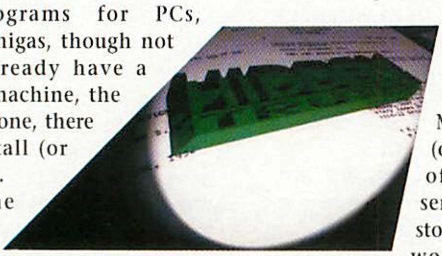
The truth



While I have to admit that I don't believe half of the theories suggested by students of the supernatural and the unexplained, I'm not the most sceptical person in the world. I tend to feel that there must be some elements of truth in what these "experts" say. For that reason, it was with some interest that I took a look at *Hidden Truth* from SAdENESS Software.

Here was a multimedia CD-ROM which claimed to be an in-depth exploration of 'the world of UFOs (sic), paranormal, sci-fi, space and many other topics.' It had to be worth a look.

The main body of the software is written in HTML, which means that the software should run on Web browsers on most machines. Be warned, the software will not work with certain browsers (like Microsoft *Explorer*) unless your machine has a modem connected up, so we're probably lucky. The CD contains browser installation programs for PCs, Macintoshes or Amigas, though not Acorn. If you already have a browser on your machine, the CD-ROM is standalone, there is no need to install (or uninstall) anything.



Running the INDEX.HTM file with the Web browser presents you with the main menu which gives you several choices of subject matter. There are nine sections in all covering: UFO Information, Paranormal Information, Science Fiction, Human Curiosities, Government Cover-ups, Space and SAdENESS (a section on the producers of the CD-ROM). There is also an index and a highlights option.

To describe everything you can find on this disc would take up a lot more space than I have here so, instead, I'll tell you about just a few of the items of interest I found while surfing through the data.

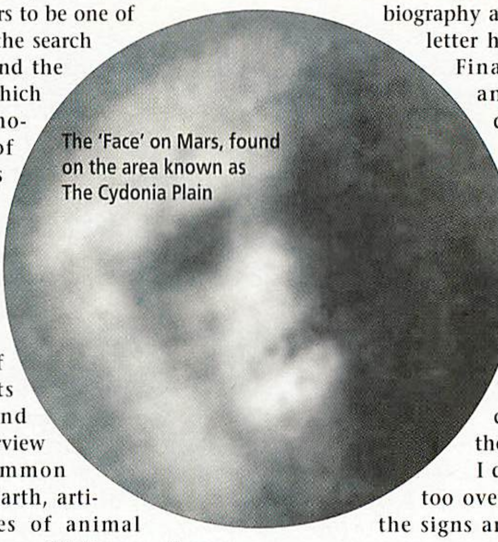
Alien artifacts

On the Malta UFO Research pages you are able to read a lot of data on the possible discovery of primitive, microscopic life on Mars which was in the news last year. Included are thumbnail pictures of the alleged, fossilised, microscopic life forms photographed through an electron micoscope. I found it fairly interesting, if a little too technical and dry, but it was here that I first read about Richard C. Hoagland, founder of "The Enterprise Mission".



Chuck Shramek's photograph showing Hale-Bopp Comet and its companion 'Nibiru'

Hoagland appears to be one of the big names in the search for the truth behind the alleged artifacts which can be seen in photographs taken of the surface of Mars and the Moon.



The 'Face' on Mars, found on the area known as The Cydonia Plain

Also available on the Malta UFO Research pages are loads of photographs of UFOs, summaries of sighting reports made in Malta and elsewhere, an overview of the most common alien visitors to Earth, articles and pictures of animal mutilations and crop circles, accounts of alien abductions, documents describing the Majestic 12 organisation (of special interest to fans of the *Dark Skies* TV series) and the Bob Lazar story. Lazar claims to have worked on an intact alien flying saucer at Area 51.

There are plenty of links with other pages on the disc, as well as with pages on the Internet itself. You can also go live to the Malta UFO pages on the Net to get more recent updates of the news contained on the disc. The live option is available on many of the pages on the CD.

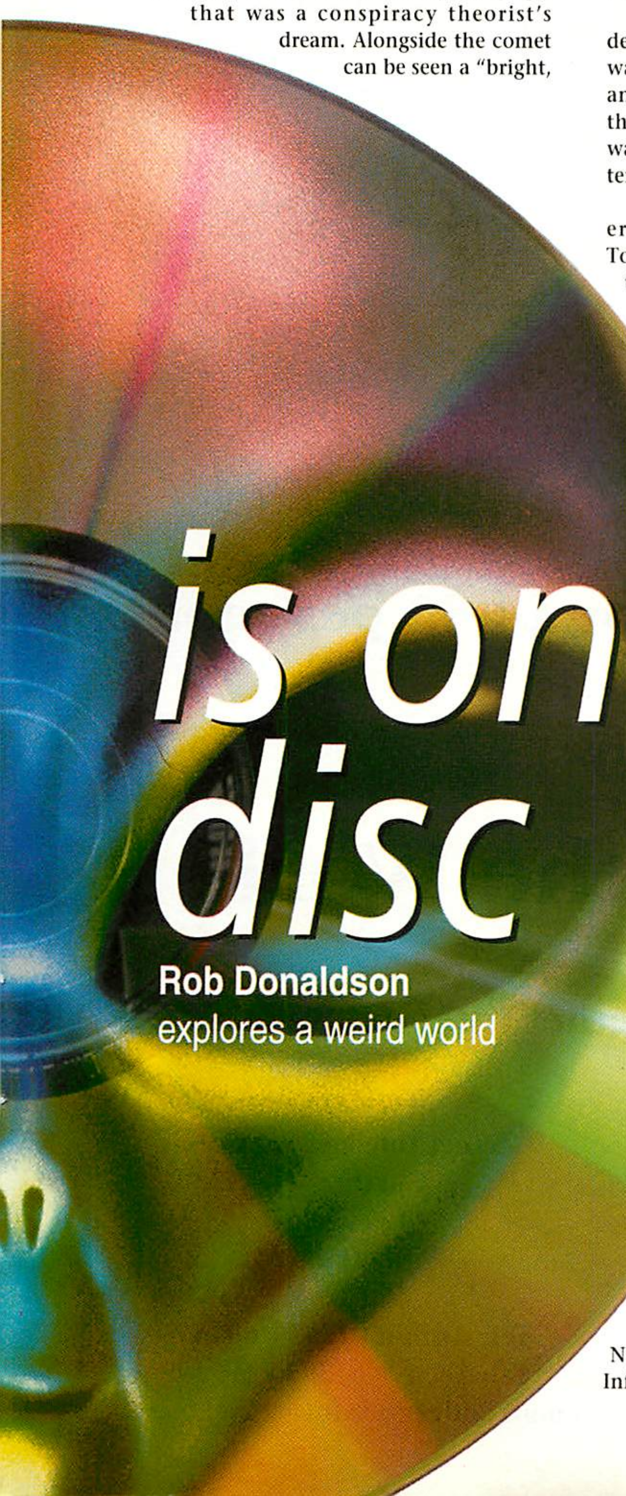
Nostradamus

The section on Nostradamus interested me no end. Having heard many things about it, this was the first time I was able to read all Michel de Nostredame's prophecies in the original 16th century French and a translation into English – or, at least, one of many interpretations.

Also available from the Nostradamus Menu was an in-depth article attempting to give a full interpretation of what the predictions mean. Pretty scary stuff this. If this interpretation is to be believed anyone under the age of 63 had better consider early retirement or they'll have no chance to spend their pension.

For the sceptics there is a small article which ridicules two interpretations of Nostradamus's work which claim he predicted the rise of Adolf Hitler. While for the neutrals, there is Nostradamus's biography and translations of a letter he wrote to his son. Finally, there is an analysis of Nostradamus's prophecies which claims that the Hale-Bopp comet was predicted and this event signalled the coming to power of the Anti-Christ, the assassination of the Pope and, of course, the end of the world.

I don't want to sound too over-confident, but the signs are that,



is on disc

Rob Donaldson
explores a weird world

just maybe, they got it wrong this time. Better luck when the next comet comes along.

Hale-Bopp Comet

There is a whole section on the CD about this visitor to our neck of the woods. With the CD having been produced at the end of 1996, there are no pictures or information on the comet from when it was closest to the Earth in March to April of this year. What it does contain is a blow by blow account of how a conspiracy theory is born, develops and gains general acceptance right across the globe.

After its discovery on 23 July, 1995, just about every astronomer turned their telescopes and cameras towards the comet, one of these being Chuck Shramek who, on 14 November, 1996, took a photograph that was a conspiracy theorist's dream. Alongside the comet can be seen a "bright, Saturn-like object" which Shramek claimed was a large object moving along with Hale-Bopp.

Within days the object was being described as an enormous spaceship that was sending radio messages of friendship and greetings. It was also suggested that the comet itself had changed course and was therefore under the influence of extra-terrestrial forces.

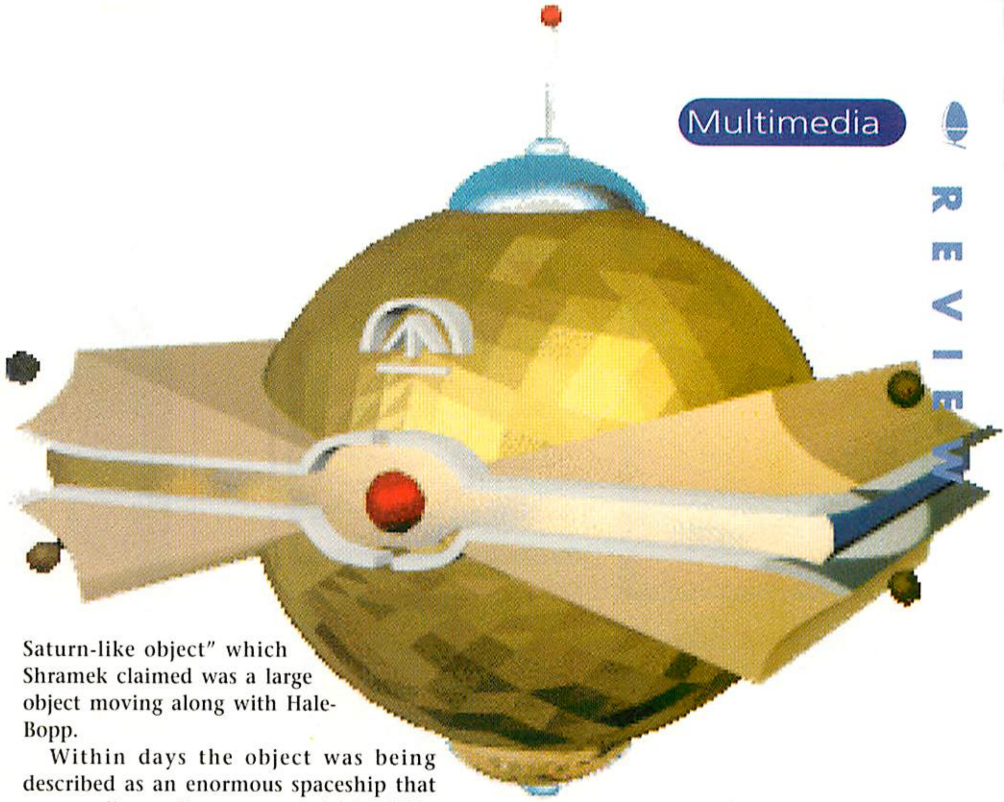
Naturally, the perennial favourite "government cover-up'" reared its head. Top-level meetings of world leaders were taking place to decide what to do when the visitors arrived, and of course a world-wide conspiracy to keep the public from getting hold of any information or pictures of the comet and its companion.

The conspiracy gained momentum as the object was given a name, Nibiru. It was apparently *built from borrowed technology* back in the days of Atlantis, was *sentient, self-aware* and was a *joint project of many groups of beings* including the ubiquitous "Greys" and the "Andromedans".

Now that Hale-Bopp has come and gone away again, we can use our 20:20 vision hindsight to say that perhaps some people out there go a little over the top with their theories, but we can only truly say that with confidence after the fact.

The rest

As I mentioned earlier, there is much, much more on this CD. Under the UFO Information section there are pages on Area 51, UFOlogists, the Men In Black (not the movie) and the Roswell Incident. Along with Nostradamus, on the Paranormal Information menu there are links to pages on Crop Circles, Ghosts and the Bermuda Triangle. The Space section has links to, among others, the Black Holes and the Nine Planets pages as well as the previously mentioned Hale-Bopp stuff.



An artist's impression of 'Nibiru' based on research by The Farsight Institute

I haven't even touched on the other three main sections. For instance, I could have chosen to look through the Science Fiction section and browsed through pages on the classic movie *Alien*, on H.R. Giger's artwork or on the more recent box-office success *Independence Day*. The *X-Files* is there of course – inevitable really. Is it me, or has the X-Files run out of ideas and direction? You can even log on to the Sci-Fi Prodigy page (they're a Canadian band) and listen to small samples of their music.

Human Curiosities is the place to go if you're interested in Mass Murderers, why the Titanic sunk – did you know that the ship and the iceberg had travelled the same distance before their fateful meeting? – Adolf Hitler and the Unabomber.

I found, and am still finding, lots to interest me on this CD and, when you consider that many of the pages have links to other, more up-to-date pages on the WWW, this disc could be just what potential conspiracy theorists need to get them started. There's plenty to interest the sceptics too, and those who, like me, are somewhere in the middle.

AU

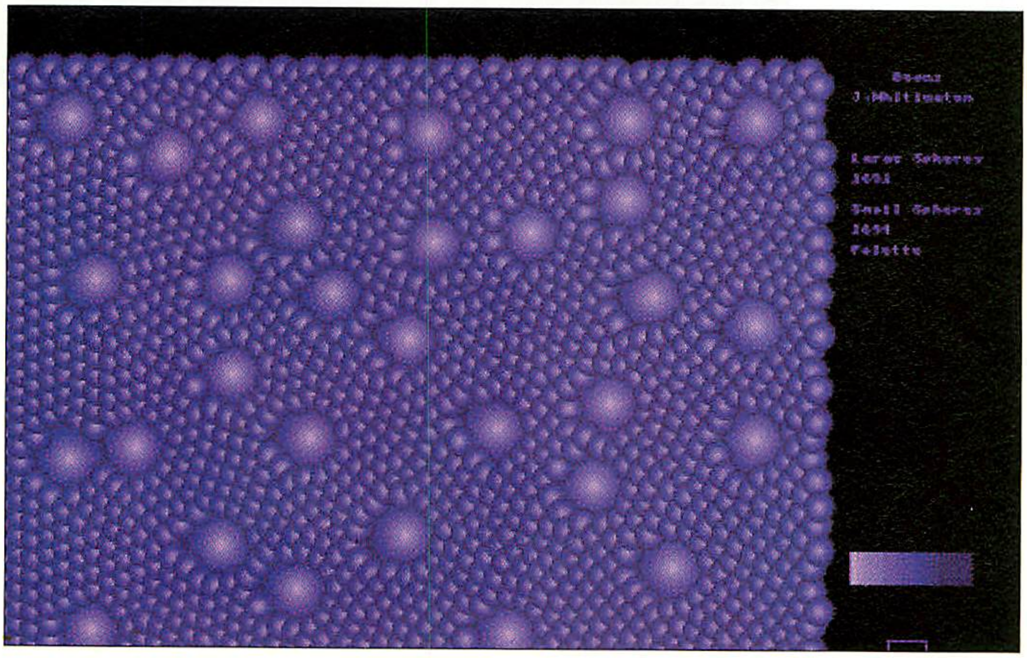
Product:	The Hidden Truth
Supplier:	SAdENESS Software
Price:	£29.95
Address:	13 Russell Terrace, Mundesley, Norfolk NR11 8LJ
Tel:	+44 (0) 1263 722169
E-mail:	rich@sadeness.demon.co.uk
Web:	http://www.sadeness.demon.co.uk/

Dave Acton and **Dave Lawrence** introduce some strange characters, doodles and ditties

star info

Beanz meanz strange

Author: John Whitington



A surreal adventure into the world of tinned legumes now, as undertaken by **John Whitington.**

"*Beanz* takes a set of circles which the user plots on the screen, and plots smaller circles in the spaces in between, giving a weird effect which appears to fuse the beanz together. The palette is then (inevitably) cycled, being careful to leave the background black. Pressing "s" saves a screenshot to the current directory."

The demo has many Vibish traits and is all the better for including some user participation in the creation of the psychedelic beanfeast. John includes a high resolution version of his demo for whom it may concern.

Rattling bog

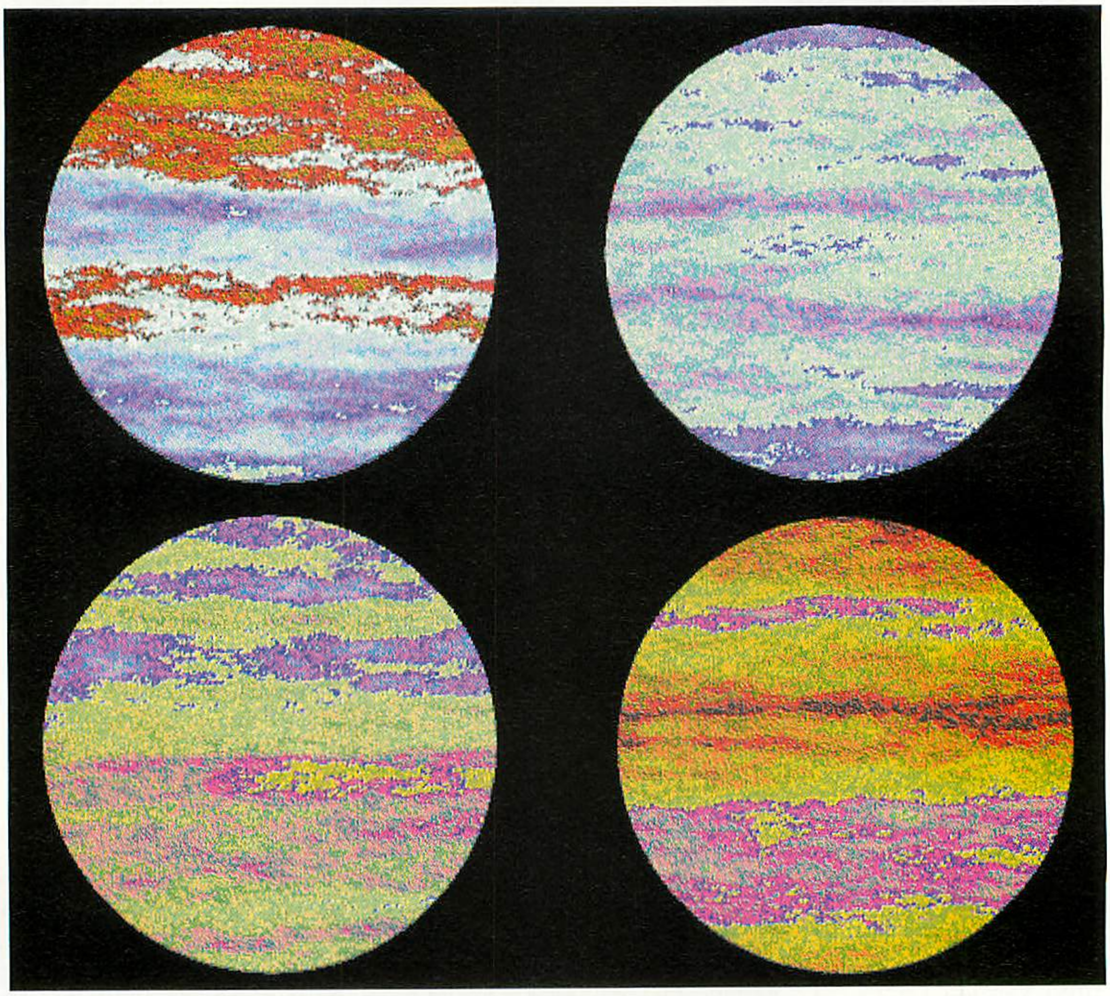
Author: Mr Adamson

...sounds more of a plumbing disorder than the American folk tune that it is. This version in MIDI and *Rhapsody* format comes from our favourite music teacher (well, our only music teacher) **Mr Adamson**. We suspect he may have given a few detentions for rattling in the bogs but that's another matter.

Toytown is an arrangement of an old tune by Jessell called *Parade of the Tin Soldiers*. It too has been given the Adamson treatment and can be found on the cover disc in both formats. And we trust that by including Old Crotchet Face's latest tunes by way of a Christmas present, he may choose to look upon our classroom misdemeanours of 1998 with clemency.

Unnatural gas

Author: David Blake



David Blake has sent in a particularly useful program that plots a random gas planet. Useful in the sense of being rather pretty but lacking in any particular use that is.

3DPlanet3a (I love filenames like that – we shall all wonder why it was slightly better than *3DPlanet)* does its job very well, producing a surprisingly realistic and indeed planetary effect using a little BASIC.

In fact, looking at the code, I can't seem to fathom how it works at all, so it is left as an exercise for the reader.

The program will take a little time to finish on a non-StrongARM machine, but be patient – the end result is worth the wait.

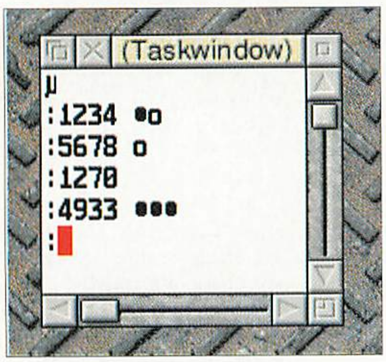
I've started so I'll finish

Author: Peter Harris

We like to think we have our finger on the pulse here at *Info. So, just as *Mastermind* finishes its umpteen-year run on the telly, here's an under-256-byte Mastermind game from **Peter Harris** of East Kilbride.

If you remember, the original brief was to write a game in less than 1K, but a few bright sparks went one better and lowered the goal posts (can goalposts be lowered?) to a mere quarter kilobyte. Called simply *µ*, the game invites you to guess the four digit code.

"For a correct digit, you get a 'black peg' shown as '•'. For a digit that is in the code but misplaced, you get a 'white peg', shown as 'o'. When you get 4 black pegs you have won. The program prints the number of attempts you made and exits.



"There is only a 1 in 10,000 chance of guessing the code on your first attempt, but if you do then it won't spoil your enjoyment with bad grammar – it will print '1 attempt'."

Peter has been kind enough to supply the source code, which might offer a few tips for others trying to write 256-byte masterpieces. If you do, please send them in.

Don't worry, bee keeper

Author: Clem Edmond

I mean happy. This musical outing of **Clem Edmond** in the happy hardcore style bears no relation to the song by Robby McFerret or whoever he was.

Instead it is 64K of unadulterated drum-and-bass cheerfulness. Just the thing to act as an antidote to all those dreadful Christmas releases.

As always, the file was created using *Digital Symphony*, so you will need it, or *SymphPlay*, to enjoy it. Of course, if you don't possess either, you could just load it into *Zap* and look at the characters I suppose – "iKÁW50" is my favourite bit, but then I never had much of an ear for music...

Yuletide vibes...

Author: Jan Vibe



...are as strong as ever, with this bumper crop of doodles and ditties from the doodling dittymeister himself. (I can't believe *Impression* just bleeped at dittymeister – a perfectly common word in these parts...)

Wave was apparently inspired by a classic, and seemingly dangerous, experiment by the great physicist and lightning-maker Nicole Tesla. Aside from inventing the modern radio (ahead of Marconi) and the AC motor, Tesla had a liking for grand experiments. He considered what might happen if a large electrical charge were sent into the ground. He postulated that the charge would be conducted by the earth's iron core, travelling through to the other side of the planet where it would be reflected back. He then considered what might happen if the wave were reinforced by subsequent charges, timed to coincide with the wave's return visit some 1/30 second later.



To cut a long story short, the experiment resulted in bolts of spectacular man-made lightning (for which Tesla still holds the record) and the local power station catching fire. However, we digress. Jan's first program, *Wave*, simulates the path of Tesla's wave across the planet, and its subsequent reflections. This is only a 2D model of course, but the results are interesting nonetheless, and the experiment is a good deal safer that Mr Tesla's original...



AlienTree is the latest version of a Vibism we carried first five years ago. The result is even more effective than before, enhanced with surrealist clouds. The program is also intelligent in that it can work in any mode – just change the mode number in line 30 to suit your monitor and machine. For those with interest in such matters, the subsidiary programs *DrawLineC* and *DrawLineC2* demonstrate the in-between line plotting code employed by *AlienTree* itself. The essential difference between the new and old routines is that SWI Draw_Stroke is employed to do the inbetweening – a job which it does very well, and considerably faster that even Jan's speedy BASIC.

To accompany the alien tree, *AlienGrass* plots, well, you can guess. Jan suggests that what is plotted resembles fat multicoloured grass leaves, and as I suspect they are more familiar with such things in free-and-easy Denmark, we shall leave it at that. More psychedelic vegetation from Jan next month...

Crystal gazing

Author: Edward Smale

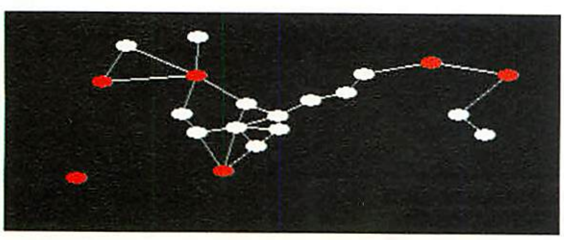
Atomic goings-on now, from regular contributor **Edward Smale** of Leighton Buzzard. Under the suitably dramatic umbrella name of *Blaster*, Edward has produced two submolecular demos called *Liquid* and *Crystal*.

"*Blaster* is a simulation of atomic forces which uses an attractive force to bring atoms together and a repulsive force to keep the molecules separated. These are approximately the same sorts of forces that occur in reality and the results are quite interesting.

"In *Liquid*, the molecules move about quite freely, but tend to stay in a shape together. *Crystal* is different, as the molecules have a larger separation distance, and stronger bonding forces. The molecules tend to compact themselves into a hexagonal crystal formation.

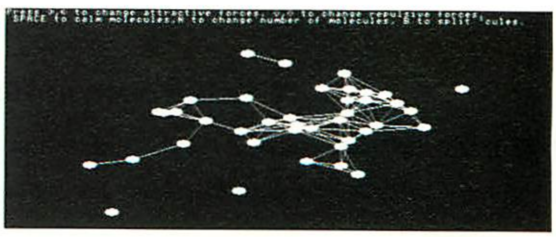
"Of course, there are parameters that can be changed and this is where it gets really interesting. The strengths of both the attractive and the repulsive forces can be altered, using the arrow keys. With a low attraction, the effect is rather like a gas – the molecules bounce around freely. Medium is like a liquid, and high makes for a solid effect.

"With a high repulsive force, the molecules hit each other away with extreme force. With high attraction and high repulsion, the molecules become agitated as the two forces fight against each other. Occasionally one will escape all together, and fly off wildly, before being sucked back in.



"The other variation allows for the addition of impurities – molecules whose separation differs from the others. The red molecules prefer a large separation, and the blue prefer a small separation (only in *Crystal*). The number of molecules can also be changed, but by 20, my A3010 slows down to about three frames per second. This is because each molecule is attracted to every other molecule, and the attraction algorithm uses a lot of heavy maths.

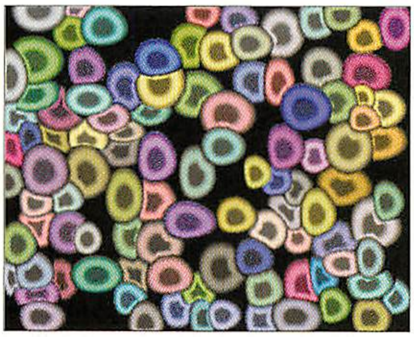
"If the number of molecules is doubled, the amount of maths is tripled, or something like that. Consequently, the 64 molecule option is probably a bad idea if you have anything less than a StrongARM computer. That said, three or four molecules run quite happily at 25fps on my computer, and 10 is acceptable also."



ACORN USER
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Ex-cell-ent

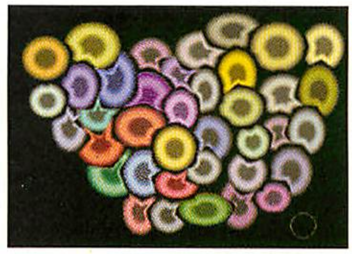
Author: Philip Mellor



And excellent it is, this amoebic demo from **Philip Mellor.**

Multicoloured cells are plotted as if viewed through (we suspect, a not particularly expensive) microscope. However, the program tries very hard to make sure that the cells don't overlap.

Since *Cells* is intelligent about which mode it is running in, using *ColourTrans* to select its colours, you can easily adapt it to run in 32 thousand or 16 million colour modes on your RiscPC, video RAM permitting.



For a bit of interaction, try *CellsDIY*. Here, you choose where the next cell is to be placed – a whacky dotted border shows how the new cell will squeeze its way around those already on the screen (if possible).

The Finnishing touch

Author: Jonathan Rawle

In this Euro-friendly age, we may need a more elegant way of inserting those tricky foreign squiggly things into our text files than the trusty *Chars* allows. **Jonathan Rawle** comes to the rescue with a user definable character utility, *CustomChr*.

"Custom Characters is different from other character selecting utilities, in that it allows you to choose which characters you want to appear in the character window, and where you want then to be in the window.

Using the program

"Double-click on the !CustomChr icon. Clicking on the iconbar icon will open the currently selected character window. Characters in the character window can be clicked upon to enter them at the caret.

If the caret is currently in a writable menu or a dialogue box, clicking the mouse in the character window will close the dialogue, and you will have to start again. There are two ways of overcoming this:

• Position the pointer over the character you require, but press Shift instead of clicking. This is the method used by *Chars*.

• Use the 'Magic entry' option. This allows you to click the characters but leaves the dialogue box open! (as if by magic?!)

The iconbar menu offers another way of accessing characters and a choice of font. Shift entry may be selected so that pressing Shift enters the character under the pointer. As Jonathan points out, "You may occasionally want to switch this facility off though; it can be a nuisance when you are typing away, press Shift to type a capital letter, and end up with an unexpected ellipsis or Faroese character!"

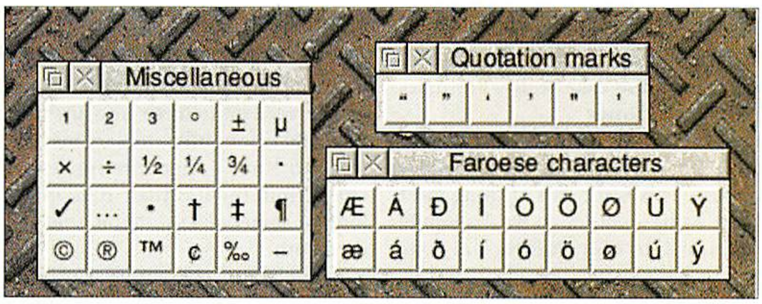
Enabling 'magic' entry means that the pointer changes to a hand when over the character window. Characters may be clicked and thus entered without the caret leaving the desired dialogue box or writable menu. The currently selected layout, font etc, may be preserved using the Save status option.

Creating character layouts

"Character layouts are simply textfiles containing the characters you want. They are stored in the directory *!CustomChr.Characters.*

"The first line in your textfile should be the title for the character window. The second line is the width of each character 'button' in OS units. Usually you will use 52, as this gives square buttons. Subsequent lines contain your list of characters. Each character should be on its own line, followed by return.

"(Of course, these characters will often not be available from the keyboard, so you should use *CustomChr*'s full character set window or *Char* to enter them.) As an alternative, you can use the characters ASCII code; for example type 65 for capital A. If you want to include a comma (,) in your layout, you must use its code (44) otherwise you will confuse the program. To start a new line in your character window, include the symbol \\ on its own line.



"You can include as many of these as you want and lines of characters do not have to be the same length; *CustomChr* will size the window to accommodate the longest line. If you do not include any \\, all the characters will appear on one line.

"Save your textfile into the Characters directory. The filename you choose will be the one displayed in the Characters menu, so pick something meaningful. If you now quit and re-load *CustomChr*, your layout should appear in the menu and you will be able to use it."

Advanced layouts

"As an example, look at the Qwerty and QwertyC layout. Notice that the buttons are all different widths, and some are in different colours. Notice also, that if you click on the green 'C', the program switches between the two layouts. You can use all of these features in your own layouts.

"Instead of just listing a character, you can use a special command to describe the features of the character. This takes the following format:

```
(character displayed),(character typed),(button width)
```

"The displayed character is what you will see in the character window. The typed character is what will appear when you click the button. Each part of the command is separated by a comma and you do not have to include all parts of the command. If you omit a typed character, the displayed character is used as the typed one. If you do not include a width, the default width (from the start of the file) is used.

"You must include a displayed character and you can use the ASCII code, or the actual character (where possible) for the displayed and for the typed character. If you use the ASCII code for the displayed character, you can add a (colour number)*1000 to it. For example, 9065 gives a yellow A. (The colours follow the usual 16 colour desktop palette, except that 0 is black and 7 is white).

"You can leave a gap between two buttons on the same line by using >>>x (where x is a number). You can also include >>> commands at the start or end of a line to leave larger gaps at the edges of the window.

"If you include a Link command in your file, the button that you defined BEFORE the link command will load a different layout when clicked INSTEAD of typing a character. The syntax of the link command is:

```
L:(filename)
```

where (filename) is the filename of another character layout."

So many windows, so little space...

Author: Mark Summers

Mark Summers of Gloucester brings us another solution to the age-old problem of crowded desktops and booms in the window population. This is a particularly elegant solution, and the small BASIC program that achieves it is all the more remarkable for being, well, small. And in BASIC of course. It is called *Scroller* for reasons that will become obvious.

"*Scroller* is an application which is intended to provide more desktop space. This can be helpful when large windows or a large number of windows are in use. In order for proper operation, *Scroller* requires that windows are allowed to move beyond the edge of the screen in all four directions. If these options are not currently set, this can be achieved by loading *Configure* application and selecting the two *Allow windows off-screen* options in the Windows section.

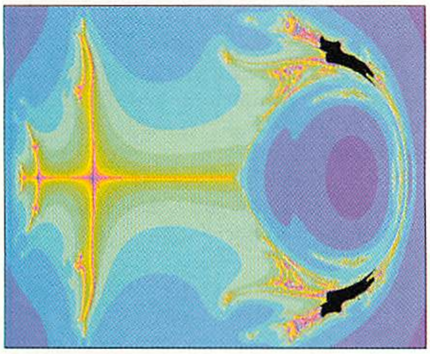
"When loaded, *Scroller* installs itself onto the iconbar. *Scroller* is switched on by default but may be switched off at any time by deselecting the Scroll option on the iconbar menu. *!Scroller* creates an array of desktop screens – 11 screens wide and 11 high.

"Only one of these screens is in view at any one time. Moving the mouse pointer beyond the edge of one screen will cause it to move onto the next unless the edge of the array has been reached. Windows may also be dragged across screen boundaries. The *Scroller* iconbar icon contains the co-ordinate of the screen which is currently in view, relative to (0,0) which is the original desktop screen.

"A Restore option is also provided on the iconbar menu. This is intended to help overcome the problem of 'lost' windows. This can occur if windows are opened within or moved onto a screen, and the location of that screen is then forgotten. Selecting Restore will return the user to the screen with co-ordinate (0,0). *Scroller* will then find all of the windows which are currently open (wherever they may be) and move them to the bottom left hand corner of the screen."

The fractal factor

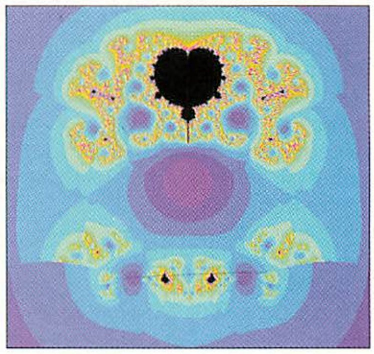
Author: Jean van Mourik



Jean van Mourik is a familiar name when it comes to space-filling curves, and his descriptions of these two fractal ditties are as short as the programs themselves.

No doubt the fractal hacks will be able to fathom out what's going on – there is a suspiciously large number of SINs and COSs in there, not to mention the odd SQR and ATN.

This is perhaps why the program takes its time on all but the fastest machines. In fact, Jean provides two demos – *Fractal4* and *Fractal5*. The former offers some control over the result by requesting a single parameter.



Date and walnut cake

Author: Gavin Innes

Well, we lied about the walnut bit. And the cake really. But dates abound in this 1998 calendar from **Gavin Innes**.

Not a ray-traced, gouraud-shaded real-time spinning 3D calendar you understand. Just a simple, 2D, static *Impression Style* calendar to load and, well, print out I suppose. This is the sort of thing most of us can't be bothered to fiddle on with, so although we'd all quite like a calendar on a single A4 sheet, it seems Gavin is the only one with enough gumption to get around to creating one. We are all of course very grateful to him for taking the effort, and we suspect that other non-programmers may be enticed into submitting their work to *info – there are no real rules as to what we will carry (apart from the less than 100K one – see **quit* for details) – just as long as someone else might find it useful, entertaining, or maybe even both.

*QUIT

All submissions, large, or small, but preferably small, and certainly not bigger than 100K please, to:

*INFO, Acorn User, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP

or, if your submissions total 100K or less, e-mail us (including your real address please) at:

austarinfo@idg.co.uk

You needn't include a letter but please put your name, address and program title on every disc and include a text file containing your name, address, disc contents and program details.

If you are responding to one of our challenges, please mark your envelope clearly with the name of the challenge. A SAE will ensure your discs are returned. *info submissions only please.

Compatibility table

Program	ROS 2	ROS 3.1	ROS 3.5+
Beanz	?	Yes	?
Beanz Hi	No	Yes	Yes
Alien Gas	No	Yes	Yes
Alien Tree	No	Yes	Yes
Drawline C	No	Yes	Yes
Drawline C2	No	Yes	Yes
Sand	No	Yes	Yes
Wave	Yes	Yes	Yes
Fractal 4	Yes	Yes	Yes
Fractal 5	Yes	Yes	Yes
Scroller	No	Yes	Yes
Blaster: Crystals	No	Yes	Yes
Blaster: Liquid	No	Yes	Yes
!Custom Chr	No	Yes	Yes
Cells	No	Yes	Yes
Cells DIY	No	Yes	Yes
1998 (Impression needed)	–	–	–
µ	Yes††	Yes	Yes
3D Planet3a	No	Yes	Yes

†† Symbols not correct

GUIDE TO LOCAL DEALERS



Rambles through Acorn Wood

Another question and answer session from **Mike Cook**

There has been a lot of comment lately about what Acorn should or should not do with regards to the development of their machines. In all this I think people constantly underestimate just how small Acorn are compared with the competition. Apple, while many times larger than Acorn, are minnows when compared with the lumbering colossus of Microsoft.

Acorn are constantly being badgered and berated for not keeping pace with software developments, but at times this is just a hi-tech war of attrition. It seems that technologies are being developed not because of any perceived need, but just to make the competition waste assets by keeping up.

Things move very fast in this industry, not long ago Java was seen as the future on the Net. Acorn were bounced into developing an interpreter and Acorn-bound Web browsers were kept out in the cold on many Web pages. Now Microsoft has decided to kill Java, not officially you understand but damning with faint praise and introducing other technologies of their own to replace functionality.

More than 750 pages on the Microsoft website have had their Java applets removed, there is now no Java at all on the site. They claim that their own ActiveX is quicker, smaller and faster – if it is, it will be a Microsoft first. This leaves Acorn in the crossfire, and that's the place to be if you want to be the first casualties of war. What people who are full of good intentioned advice must realise is that if Acorn do X, whether this is more advertising, lower-priced special school schemes, then they cannot do Y. Acorn produce the best hardware in the world for the home purchaser, but at the end of the day they can't afford to bend to every fashion and whim, however vital it may seem at the time.

Riscy questions

One problem with my recent PIC programmer is that it is very useful at making standalone gadgets. You might not think this is a problem, but then if it is standalone does it deserve a place in my Run The Risc column? After all, that column is about attaching things to your Acorn computer, so should a device that only uses your computer during its manufacturing and development count for inclusion?

I have made a vibrato peddle for my son Alec's electric guitar and a MIDI bass peddle unit from a scrap organ, but as neither uses an Acorn directly I am reluctant to publish them. Let me know what you think, would you like Run The Risc to have some occasional PIC projects or should I only mention the PIC when it is used directly in an interfacing project?

Jonathan Relf from Birmingham has been making one of my projects and writes to tell me:

I built the DMX Lighting Controller from your series a few issues ago. I was interested to see the project working from my Risc PC as lighting is my hobby and my job (I work at BBC Pebble Mill).

I stayed up hours playing with the interface and your short BASIC program supplied on the cover disc. I built the module, and to test it I got hold of a DMX Demux unit to convert the signals back to analogue. A series of LEDs connected to the outputs of the Demux then showed if the system worked. And it did, eventually! The problem was that the BASIC program was running too fast for the Send routine. I had to slow it down and then the LEDs started to flash. Whoops of joy were heard echoing around my house. My girlfriend questioned my sanity when all I had was a very complicated chain of equipment just to get four LEDs to work!

So impressed was I with the simplicity of the idea that I wanted to take it further. I have been writing a simple BASIC program to provide individual channel control with a master fader. My aim is to get a fully working lighting program at the end of it. As I am writing it in BASIC, I am wary that it will soon get too complex even at the speeds BASIC runs on the Risc PC.

As there are so many PC-based lighting 'desks' coming on to the market at the moment, I really wanted to try to write a good one. I find my RiscPC still knocks the socks off the PC in raw power and ease of use and therefore am reluctant to develop software for PCs. After some research among my colleagues, I have an idea as to how the program should function in the end.

The real question is which language to code this program in to reach my goal? My skills in lower level programming languages are sparse (my C is rusty) and at present I'm only really fluent in BASIC. Which option should I go for? Which language is going to enable me to get the best (and easiest) results from my Risc PC? Also, is the RISC OS PRM an essential buy? Or should I look into C? As a seasoned Acorn expert, I would be grateful if you could offer any advice.

My wife always accuses me of scattering salt all over the table, so that must make me a seasoned person and remember that an expert is just a drip under pressure. I think that the PRM (Programmers Reference Manual) is essential irrespective of whatever language you use because it details the operating system routines you need to tap into to. However, I do wish Acorn would release just the section on the WIMP interface because that is the section most people need – it's certainly the section I consult the most.

I feel that the advantage of BASIC is that you can always drop into assembler when you hit a section of your application that needs to run fast, and then come out again for all the things a high level language is good at, like string handling. Not that C is particularly good at string handling, but BASIC is.

When writing an application there are essentially two tasks – the user interface and the job itself. You will probably spend most of the time on the user interface and this is mainly handled by the operating system. A language that you are familiar with is an advantage as it is one less thing to struggle with. I have found that BASIC coupled with the odd assembly language routine allows me to tackle most applications I come across,

and if I were writing your application that is what I would use. Properly structured it can be as modular as C, and with the StrongARM processor it can approach the speed. However, C is faster and used in many commercial environments so developing skills here will certainly not be wasted.

Chris Hutchinson's plea is short but sweet:
Has anyone out there succeeded in making Microprose's *GP2* work with sound on their StrongARM PC card?

If you have, don't just say yes – tell us how you did it!

On a similar vain Alan e-mailed me about some incompatibility:

When I had a A3000 I purchased a HCCS Ultimate Expansion using a Scanlight 256, Vision 24, MIDI and HQ Sound Sampler. When I upgraded to a Risc PC 600 I purchased two HCCS Multipodules so as to be able to use Scanlight 256 etc. During August last year I upgraded Vision 24 to Panorama, a very short time later I upgraded to StrongARM, then of course none of the aforementioned items worked.

Out came the airmails to write to HCCS on more than one occasion but none of my letters were answered. Early this year I telephoned HCCS to be greeted by a recorded message saying HCCS had ceased trading and to phone another number. I phoned one of the given numbers which was Applied Technologies Manufacturing Ltd. At least this phone had a human on the other end who was helpful in telling me that Panorama was StrongARM compatible and the problem was with the software of the Multipodules.

He asked me to write to Applied Tech., who designed and manufactured Panorama.. This I did with some urgency, but no answer has yet arrived. The Scanlight Vision 24/Panorama were well used and when you are on a tight hobby budget it is hard to justify spending hundreds of $ or £ just to get back to stage one. I don't mind paying something to get these items working, but to completely replace everything is something else. I feel sure that they must be other people in the same predicament as me.

Upgrading is always a problem when the original company goes out of business. It sounds like there is something wrong with the firmware on the cards. It might only be the odd instruction but it still stops it working and with firmware it is most difficult to replace. The answer could be a module that reads the firmware into RAM and then patches it. Has anyone done this?

Alan ends his e-mail with an adage: *Wives are young men's mistresses; companions for middle age; and old men's nurses.* Which is a bit misogynistic but not as bad as the one I heard the other day when referring to literary translations. *Translations are like wives, the faithful aren't beautiful and the beautiful aren't faithful,* it must be true because I am married to the exception.

Laurie Mustafic who is only 13 has a problem with school:
In school we have a Risc PC in the library and English room and they are always using Windows. How do I get onto Acorn? I really want to use it so please help. By the way I have got a games directory but when I try to open it I get a Broken Directory error, what do I do?

This sounds like a school from hell. It's got the best desktop computer in the world and yet it runs Windows all the time – better get them reported to OFSTED. In the meantime the cavalry is arriving. Just push the centre mouse button to get onto the Acorn desktop. Insert our cover disc and click on the disc drive icon labelled :0 with the left-hand mouse button. Then it's point and click all the way. If you want to do it officially you could try asking the teachers to let you look at the Acorn user guides that came with the computer, but they sound such an evil lot you might not get anywhere.

S Antczak from Oxted, Surrey has been finding that Net surfing with Acorn is not always hassle free, he writes:
Increasingly my Web browser, *Termite Internet*, is unable to display some JPEG images. If they do not crash the machine they appear as small sprite file icons. Attempts to download them and view them in *ChangeFSI* or *SwiftJPEG* fail, the latter reporting the image as 25000 x 0 pixels, for example. Are these simply dud JPEGs or has Bill Gates changed yet another standard so, once again, we are forced to buy Microsoft dinosaurs (referring to both size and technology, of course)? I use *ChangeFSI* version 1.15. Is there a newer version that can deal with these problem JPEGs?

As far as I know this is the latest version of *ChangeFSI*, it was the one on the Acorn Clan CD that arrived a short time ago. While the standard hasn't changed, some JPEG creation programs can be remarkably lax about how they create their header. Couple this with the fact that *ChangeFSI* is extremely fussy about its headers and it is a recipe for frustration.

However, there are many JPEG viewers out there, so your best bet is to save one of these dodgy files from a page and see if you can find a viewer that will cope. Despite my comments at the start of this article, not even Bill Gates could/would change the standard for JPEG files because it doesn't cost him anything to retain it. Mind you, do you know how many Microsoft programmers it takes to change a light bulb? None – Bill simply declares dark as a standard.

Paul Turner, who is a radio amateur with the call sign of G4IJE, writes to me to inform me of one of his pet projects:
On several occasions I've noticed indirect references in your articles to programs like JVFAX (a well-known SSTV and weather FAX decoder, used mainly by radio amateurs) and the problems of running such programs on a PC card in the Risc PC.

I thought you might be interested to know that I've been writing similar programs (in ARM assembler – no PC card required) for Acorn machines for many years now. My current program (called *Pscan*) is shareware and I have 15 registered users so far. *Pscan* uses a simple op-amp interface plugged into the serial port of the Risc PC, very much like similar PC-based programs.

Although *Pscan* is biased towards high-quality colour SSTV (TX and RX) it can also receive black-and-white weather maps from Bracknell and Northwood etc. I should add that it can only run on a RiscPC (ARM 610, 710 or StrongARM and OS 3.50 or later) – it does not run on earlier Acorn machines. It might work on the new A7000+ but has not been tested yet.

It's great to know that Acorns can be used in this field where even Apples don't get a look in. If you are interested in *Pscan* you can contact Paul at Paulg4ije@aol.com Being an amateur myself (G8HBR) I will certainly be looking into it. By the way with only 15 registered users Paul is not going to get rich so make someone's day and register that shareware you've been using for ages.

Finally this month John Bland is having problems with yellow pages, he explains:
I'm using a StrongARM Risc PC for all my University work where possible and this is fine until it comes to printing. I use the laser printers at University but I am having problems with multiple 'bins'. The main Postscript printers use yellow paper for headers (name and user id etc.) then white paper for the actual document. Unfortunately the drivers I'm using on my Acorn (ones supplied with !Printers 1.54) only use single bins so the printouts are all coming out on yellow paper. Not what you need for a project write-up.

Have you any idea how I can modify the Postscript files I'm generating with !Printers to tell them to use the other bin? (White paper is in the lower bin). I've hacked into files generated by the University printer drivers and they include a special instruction along the lines of:

```
Begin feature

loads of gobbledygook

setup - lower bin etc

endfeature
```

Could I just copy this across to the Postscript file? Are there any printer files supplied with !Printers that do this automatically? I'm just using a generic Postscript driver at the moment. The printer itself is a HP 4Si/4SiMX Postscript? Would the Lasjet4MPS driver do the job (even though it tries to crash !Printers when you use the configure option)?

The simple way round this is to save your work as a Postscript file and then append the extra bit you have found to the start of your file. Alternatively you could hack into the Postscript printer driver to add this section before printing out the rest, I think it's written in BASIC so shouldn't be to hard to do. Finally, for a bit of a non-technical solution, you could always slip some white paper into the top bin when no-one is looking.

Contacting me

You can contact me, Mike Cook, by post at the usual address or by e-mail at:
auqanda@idg.co.uk

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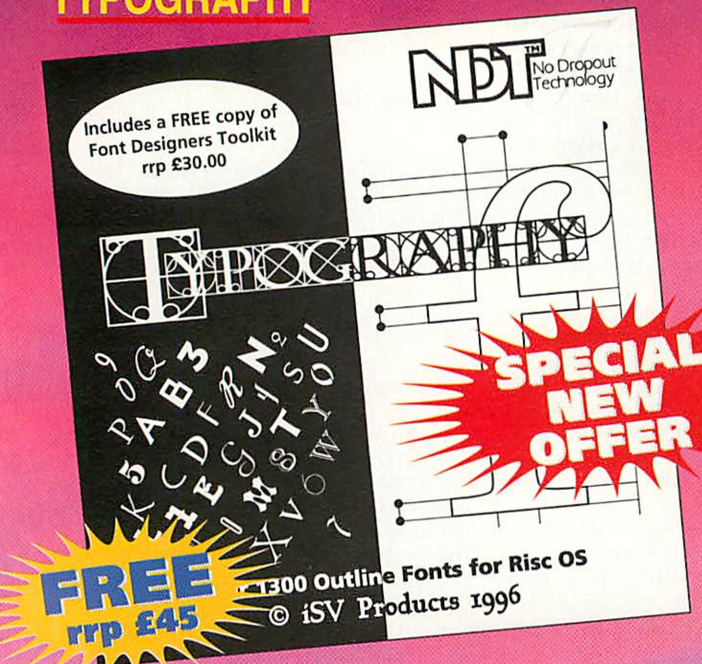
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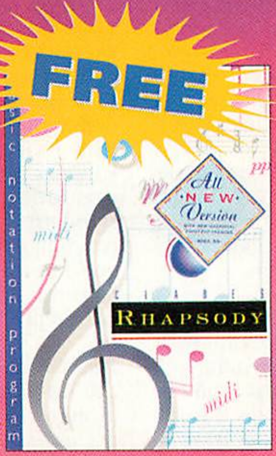
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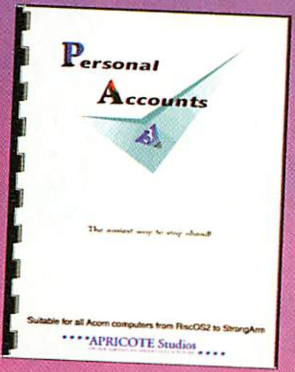
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Decoding satell

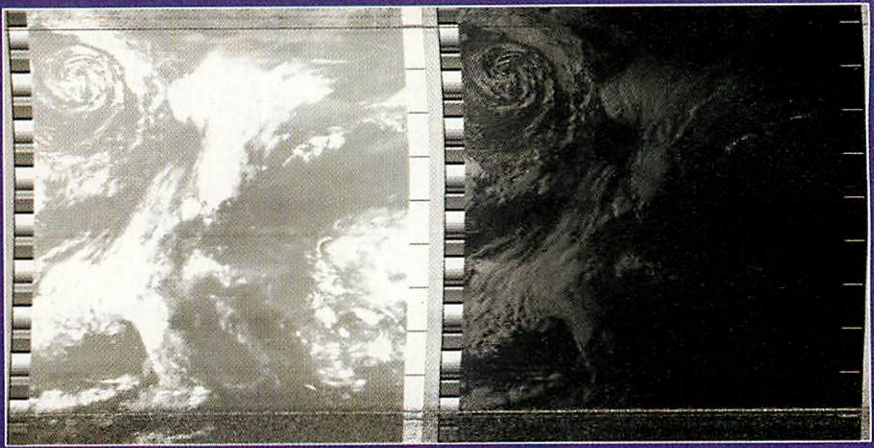
Last month I looked at the hardware needed to convert the audio tones from a polar orbiting satellite into digital signals suitable for feeding into your computer. This month I'll look at the software needed to be able to display the satellite image.

As I described last month, an image of the Earth is scanned by a rotating mirror for the X direction, with the orbital motion of the satellite providing the scan in the Y direction. The signal from the light sensor is used to modulate the amplitude of a 2.4KHz audio tone. In fact the NOAA series of satellites are quite sophisticated and transmit both visible light and infrared images side by side.

The transmission speed is fixed at 120LPM (lines per minute), and is a hang-over from when such images were received on a rotating fax drum. If you do the sums, that works out at half a second per line or 500mS. Remember that a good satellite pass can last 15 minutes and the hardware is clocking data in at a rate of 4.8KHz, so that gives us a maximum image size of 2400 by 1800 pixels, which is just over four megabytes of data. More realistically, there could possibly be only 10 minutes of interference free signal but that still weighs in at nearly three megabytes.

Obviously this activity is not one for a lightweight machine. It is possible to use lesser machines by having the software record every fourth pixel or so. I have not used this approach, instead opting to let you use existing software for post-reception image processing.

Let's see in what form the data arrives. Figure I shows a scan line from a NOAA satellite. It starts out with a synchronising burst of seven cycles of alternate black and white levels, marked in the diagram as part 1. This shows up as



Infrared and visible image side by side, with the sun at a low angle. There is interference at the top and bottom of the image where the signal is weak. See also the sync bars, one minute tick lines and grey level telemetry data. Note the Infrared image is too light and the visible image too dark – image processing can dramatically improve this

stripes down the side of the image. Then, in section 2, there is a short section that is used to send telemetry data concerning conditions on the satellite. This is coded in steps of grey and looks a bit like a grey scale down the side of the image.

Next comes the image scan itself. Here I have shown it as a stepped ramp, but in practice it will be moving about all over the place. Finally there is a strip of light grey, section 3. However, once a minute there is a black marker inserted here from the spacecraft's clock. Next we move onto the synchronising burst for the visible line, section 4, this is slightly slower than the first burst and so results in a slightly wider strip.

It is possible to use these speed differences to trigger the capture of the image but this would require extra hardware. Section 5 is the same telemetry data sent in section 2, and is followed by the visible light scan. Finally, section 6 is dark with one minute white markers.

Most satellite reception programs on the PC require you to manually phase the picture – holding down a key that skews until the sync bursts are down the left hand side of the image. I prefer to do this at post-reception time so that none of the image is wasted.

Figure II shows the format of a typical Russian meteor signal. Here there is only one image sent. It's usually visible but sometimes it can switch to infrared. At the start of each line are some black and white sync pulses, a short grey scale, as well as a 6-bit binary coded telemetry signal. It is this data that can resemble the marks in a punched piano roll and so is nicknamed piano data. As you get twice the number of X pixels in a Russian image it often looks distorted, but it can be restored by the appropriate scaling.

Now to my software – imaginatively entitled *SatRead* – on the *AU* cover disc.

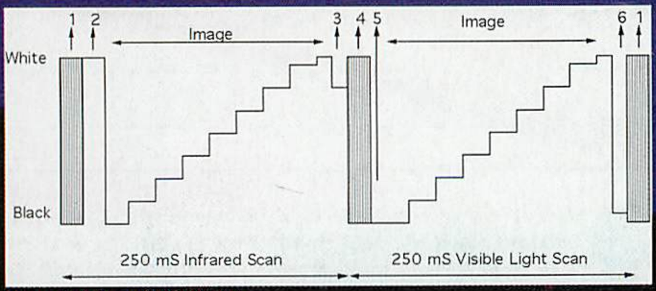


Figure I: A line of NOAA data

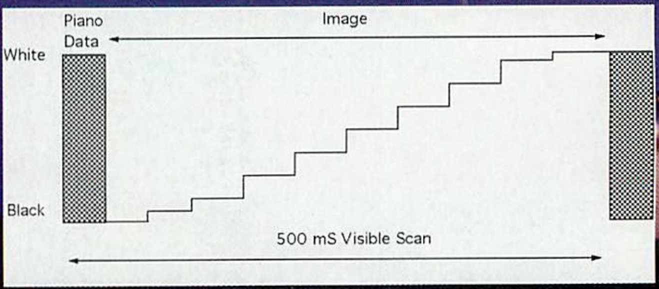


Figure II: A line of Meteor data

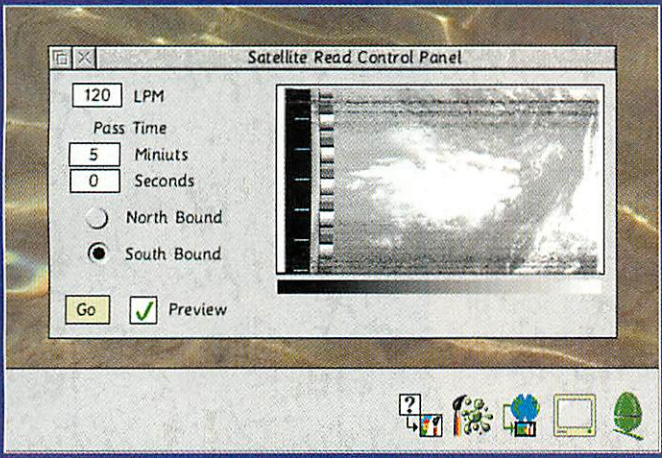
Part 2

ite images

Mike Cook explains how to see your satellite images

Clicking on the icon will bring up the control window. Here you can set the line rate and the pass time – these determine the size of the image and reserve the appropriate amount of memory. If you have insufficient memory you can reduce the pass time. Next there is a radio button indicating if it is a north or south bound pass. This affects which way up the image is displayed – most of us like to look at maps with north at the top. If you get it wrong, there is no need to worry as there is a post-reception memory option to put it right.

A data rate of 4.8KHz puts a bit of a strain on any computer, so during reception normal desktop activity is suspended. However, if you have a fast processor you can get a sneak preview of the image as it comes in. This is updated in real time but it shows only every fourth pixel and fourth line, giving you a miniature view.



The preview window gives a miniature view of the image being received

For those with slower processors this will cause slippage – the sync pulses and image will not be straight so the preview can be disabled. Clicking GO, not surprisingly, starts off the whole process. Note here that the pass time determines the size of picture and not the actual time, so with no hardware attached you are going to have a very long wait, or a hard reset.

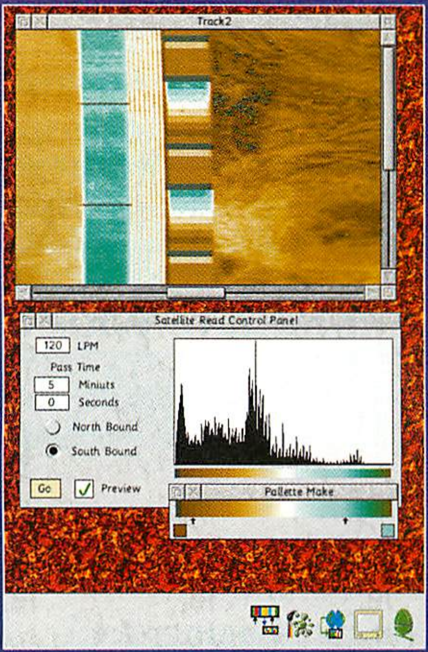
If the hardware is attached then this ensures data is being clocked in irrespective of whether a satellite signal is being received. This is handy if the signal level dips and noise appears on the signal as the software will still keep gathering the data and the picture will remain in synchronisation.

On completion of the image, the preview will disappear and replaced by the image histogram which is the raw statistics of the image and shows the range of grey levels received. Also, another window will open up containing the image. At this stage it might not look too good but this is where image processing comes in.

The first thing to do is to phase the image, that is get the sync bars in the right place. Choose Phase from the menu and the cursor changes into a pair of arrows. Click on where you want the left hand edge of the image and the picture will be shifted over. The flip menu option is used if you get the pass direction wrong. You can also make the image negative and maximise the contrast, although at this stage it will not be too beneficial as there is still telemetry data in the image that will interfere with calculations for the contrast stretching operations.

For best results, save the image as a sprite and load it into *Paint*. There, you can cut out the part of the image you want to work on and save that as a separate sprite. You can then drag this back onto the *SatRead* icon and apply the contrast stretching again. Under the histogram in the control window is a grey scale which shows the palette being applied to the image. As you stretch the contrast you can see the effect on the palette. There is also a copy of my *PalMake* utility on the cover disc. With it you can manipulate the palette yourself and even add false colours to the image. It has a large array of options for manipulating a 256 colour palette. The resulting palette file can be saved to disc or dragged directly into the satellite image window.

If you have no interest in satellite imagery you could use these two applications to produce tinted images or psychedelic effects from black and white scans. You are best doing this in a 16 million or 32 thousand colour mode because, although you are only defining a 256 colour palette, it has to work in harmony with the desktop. So, in the 8-bit colour mode you end up simply shuffling the order of the pre-defined colours. The same goes for the *SatRead* application, as in a normal 256 colour desktop there are only 16 shades of grey so you will not see the image at its best.



By using the palette utility false colours and tints may be applied

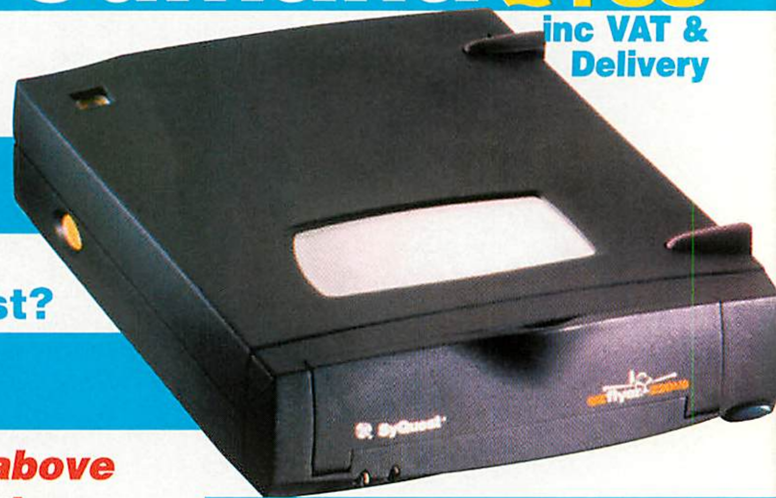
Finally, there's always *ChangeFSI* to add a bit more image processing, I got very good results if I used its histogram equalisation process on the cropped raw image. Also, the option to save the image as a JPEG file can reduce the burden on hard disc space. The scaling option can be used to correct the aspect ratio of the Russian satellites, and the zoom controls allow those with small monitors to see all the image.

Well that's about all my space used up this month. Next month in the final weather trilogy I will look at the satellite receiver and aerial setup as well as predicting exactly when a satellite will make a pass. Have a Merry Christmas.

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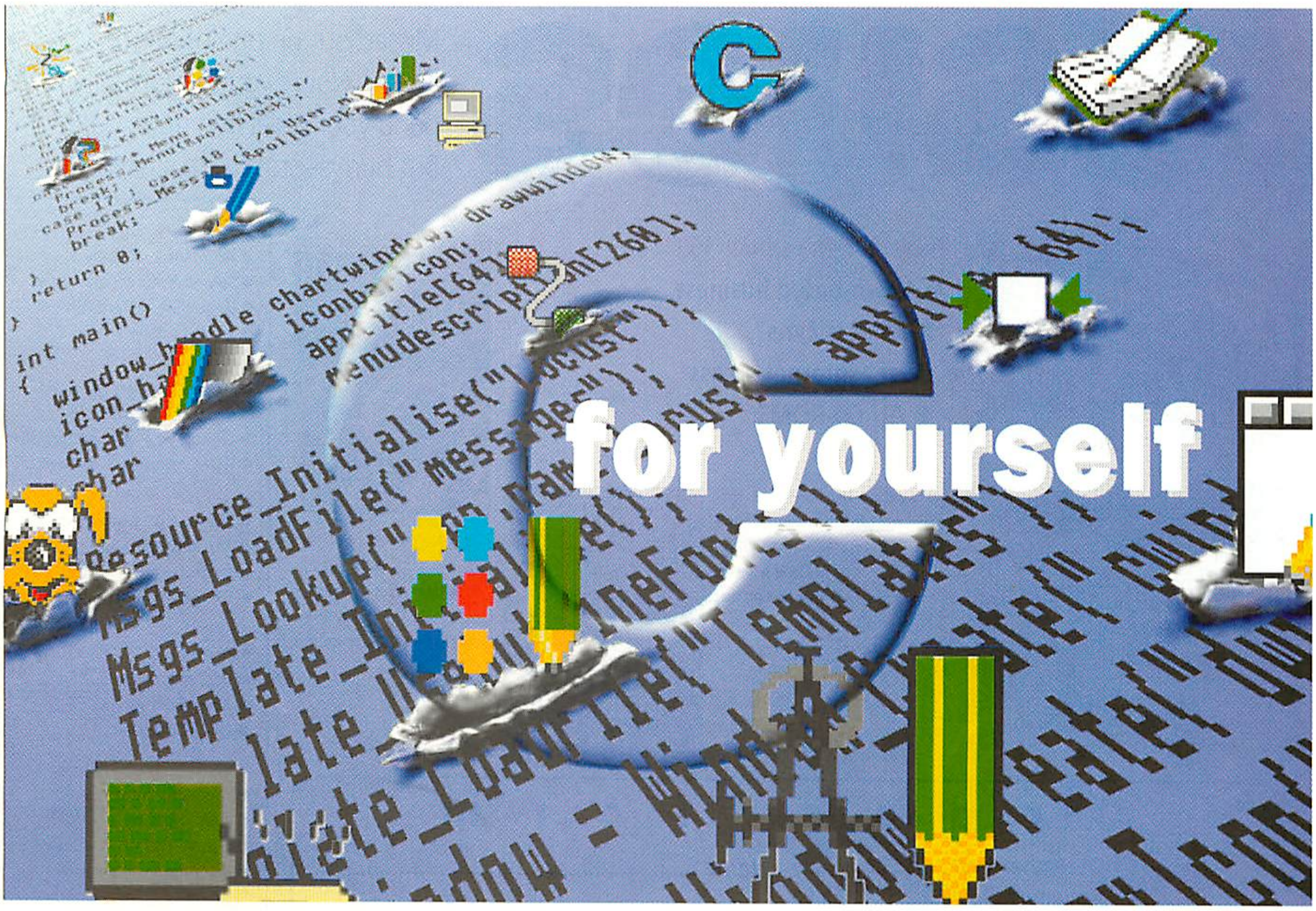
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JACK KREINDLER

for yourself

Steve Mumford provides an overview of the printing process

In this month's tutorial I'll start to explain the intricacies behind using the RISC OS printer drivers to produce hard copy. As I've said before, parts of the process share similarities with the redrawing loops in WIMP applications, but as is to be expected we have to do some extra work to get the ink flowing.

In order to minimise the development necessary to support a given range of printers, RISC OS provides us with what amounts to an interface to a 'virtual printer' – in this way, programmers can take advantage of a prewritten core program, avoiding the duplication of what can turn out to be a large amount of code.

Printing is performed using a reduced collection of screen-drawing commands, and these are in turn intercepted and mapped onto appropriate printer commands by the centralised printer manager. This means the programmer can avoid having to know about the specifics of the printer in question; the same routine can produce output for mono dot-matrix, colour inkjet or Postscript-compatible laser printers.

General principles

The first step in printing under the WIMP is to inform the appropriate parties that you wish to send a job to the queue – although the message-passing is a little involved there's nothing really difficult here; it's just a question of following the communication protocols laid down by the WIMP.

The next important step is to determine what the printer's capabilities are, along with any useful information about the driver. The SWI **PDriver_Info** provides you with the printer's name, resolution and features. Once you've adjusted your application to take these details into account, it can proceed onto the next stage and open the symbolic filename **printer:** for output. Passing the returned file handle to the **PDriver_SelectJob** SWI either starts a new print job if the handle is unrecognised, or continues with an old one – the current print job is suspended if necessary.

If you've examined the contents of a Postscript file, you might have seen that there's a comprehensive list of all the fonts used within that document fairly near the start of the file. Certain printer drivers require you to give them such a list before printing starts in earnest, and the **PDriver_DeclareFont** SWI allows the programmer to broadcast a list of distinct fonts to the printer driver.

Drawing the page

Up until now, we've just been setting the scene and no graphical information has been sent across. At this stage we enter a redrawing loop similar to the ones we employ when redrawing a window – having described which areas of the document we wish to include on the first page using **PDriver_GiveRectangle**, the actual printing process is started with **PDriver_DrawPage**. The SWI returns co-ordinates of an area it wishes you to plot, and you should draw the contents of the rectangle using the standard calls we've met already.

The printer driver fields these calls before they're allowed to draw on the screen and redirects their output to the printer. Once one rectangle has been plotted, **PDriver_GetRectangle** is then called repeatedly until the printer driver is satisfied and all the rectangles have been drawn. Due to the mechanisms employed by different printers, the shapes of the rectangles requested will vary, as will their order – dot matrix and inkjet printers tend to ask for thin narrow strips that run across the page, whereas postscript printers with sizeable chunks of memory can build up the page in one go.

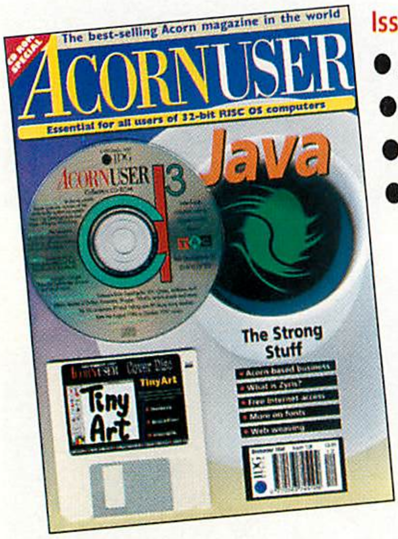
Eventually, the printer driver will complete its first page of output and will allow you to continue. If any other pages remain to be printed, **PDriver_GiveRectangle** can be called again and the above process repeated. Finally, the job can be terminated using **PDriver_EndJob** and the '**printer:**' file can be closed.

Unlike window redrawing in the WIMP, which works smoothly in the multitasking environment, RISC OS printing tends to work best when singletasking; there are various problems with queue management which are exacerbated by attempting to multitask. However, it's simple enough to arrange a form of background printing in which a print file is written to disc in a short non-interactive phase, before being spooled a few bytes at a time to the actual printer during normal operation of the WIMP.

That's a rough outline of the steps we have to follow when printing. Next month I'll build a skeleton application and spread some ink on the page. See you then. AU

BACK issues

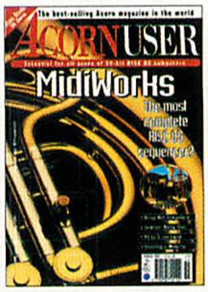
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Destiny demo

Is it me or does the *Destiny* demo on CD-ROM 3 not work properly? When I try to play the program crashes with the error "Not open for update". I presumed this means it can't run directly from the CD so I transferred it to the hard disc and it installs on the iconbar, but when I click on play game (regardless of which resolution I have chosen) the screen clears and the game starts to load with a line of dots going across the screen.

It is here it goes wrong for some reason. The program crashes out each time with a different message – I have had "Bad program" "No room for DIM" "Bad registers" "Mistake" "Internal error" "Abort on data transfer" to name but a few. What is causing this to happen? I have tried changing settings using the Task Manager but it doesn't seem to make any difference.

My machine is a Risc PC with StrongARM and 12Mb RAM with 1Mb VRAM and AKF60 monitor.

Matthew Thompson
mthompson@argonet.co.uk

We did make a mistake about the game running from the CD – sorry about that. However the rest of your problems are not so clear. It's possible you need to reduce the screen resolution using the game options. Destiny *is a very memory-hungry game so as another option try running the game after a Shift+Boot.*

Rocky ride

As a contact of mine said to me, '...the RISC OS platform is drifting dangerously backwards in terms of development systems available for it.' I have to agree.

As a user of several computers – the Macintosh, PC and Acorn series – it concerns me to see how little we have to offer prospective customers. It is hardly a surprise that so many people prefer other platforms and once-faithful Acorn supporters give in to the temptations of the PC.

In terms of presentation and other features, again the Macintosh and PC excel. Though they may not be more powerful, the packages available look very appealing, come with on-line help and welcome guides and many other features. These days, people don't go out and look for a spreadsheet program then a desktop publisher then a finance organiser and so on. They buy packages with all these bundled together at an attractive price.

Whatever the Acorn Press say, the future for Acorn is not smooth and secure and, at this rate, an outstanding machine will end up on the shelf in a museum or in the corner of a classroom collecting dust. This problem must be addressed soon for the simple reason of survival!

William Simpson
Lincoln

Compuserve crashes

I have a setup similar to that of John Osborne (Letters Dec 97): Risc PC, SrongARM, PC card running Compuserve software. In fact I am writing this e-mail using this arrangement.

I have never had any problems and I suspect the reason is quite simple – Windows 95! I am using Windows 3.11, which is relatively stable, having gone through several releases and therefore bug fixes since version 3.00. Windows 95 is desperately bug ridden. I have personally had to re-install it at least three times on several real PCs. I've never had to re-install Windows 3.11. No business I know uses Windows 95 because of this lack of stability. I would suggest he reverts to Windows 3.11 at least until Windows 98 is available next year.

Incidentally, congratulations on the CD-ROM. Keep up the good work.

Bill Swanston
wlswanston@compuserve.com



Free ad layout

Firstly, what a great magazine, however I feel that the Free Ads could be laid out a bit better. Presently there is just a description of what is for sale – fair enough – but you cannot tell where in the country that person lives. It is most annoying when there is something you really want only to find it is hundreds of miles away, which naturally makes it difficult to inspect the goods before buying.

I think different layout would be better. Firstly, for the form that is submitted to yourselves to obviously include all the details of the goods, but also a code for each county or something similar which would give an 'at a glance' indication of the geographical position. Obviously a key to all the codes would be needed – what about a map with the counties colour-coded in the bottom corner of the page for example? Whaddya think?

(Please excuse my e-mail name – I was a little worse for drink when I signed on and I have just learned that I cannot change it.)

Chris Webb
Tightgit@aol.com

I agree a location indicator would be useful but a complex colour map system is definitely not on. I think we'll just ask for a town and county.

let

Feature ridden

I read the letter by Paul Stewart in the November issue and it suddenly started me thinking. Our company, Laser Grafix, have been using Acorn machines to control Laser shows since the late '80s. We have done several shows and installations for major tours, television shows and films including a scene in the newest James Bond film, *Tomorrow never dies*.

Although the machine itself never features in these productions, there is, nevertheless, an Archimedes or Risc PC behind the scenes. It may also be the case that any of you club-goers out there may have seen a laser show and it may have been controlled by an Acorn.

Unfortunately, one of the first questions that our clients tend to ask us is "Does it run on a PC?". We have, in the past, lost business because some clients will not buy Acorn-based equipment. I have had Acorn hardware for the last 13 years and would have my hand cut off in preference to a total move away from the machine. Unfortunately, because of market forces and Acorn failing to keep a good working relationship with small developers, we are now having to move our system to Windows on a PC.

Ronnie, Laser Grafix
E-mail: laser_grafix@compuserve.com

Perhaps with the recent commercial success of Acorn you could consider not making the move, after all Acorn is now a major player.

TV star quality

In reference of Paul Stewart's e-mail in November's AU about the Acorn machine on Channel 5, I was wondering if anybody out there other than me has noticed (if they watch it) an Archimedes 410/1 on Children's BBC 1's popular programme *Dear Mr. Barker*? The only moan is that they could have at least left the 'Antique' A410 keyboards instead of using the newish ERGO keyboards. I also agree with the letter last issue that stated Acorns would look out of place on shows like BBC1's *BUGS* as they get computers to perform operations that we all know cannot be done.

Rob White
trebor@argonet.co.uk

Java studies

I am a first year Computer Science student at the University of Strathclyde and I am doing a course in Java programming. I am looking for a Java compiler and/or bytecode interpreter for the Acorn Format and was wondering if you could help me?

Allan Stoneham
allan.stoneham@strath.ac.uk

Although the Java interpreter is now available and functioning it will be a while before you'll be able to create Java applets and programs on the machine easily.

Counting your blessings

A friend was showing me around the wonders of Windows 95 the other day. Impressive on the outside!

I was trying to untangle the mess of system initialisation files to try and sort out a problem with his CD-ROM DOS Drivers. On another occasion, I was working with someone to try to sort out a user area on a PC network. The whole confusion of files was a nightmare. It's hardly a surprise that Windows is riddled with bugs and flaws!

It was with some relief that I settled back on my Risc PC to do a little programming in the weekend. One of the great features of RISC OS is that it is very easy to keep relatively tidy. The !Boot application is self contained and important files are safe in the ROM. The filing system is simple and easy to navigate.

Another thing I find is that RISC OS applications are not nearly as hungry on the memory. Eight megabytes of RAM on a RISC OS PC will serve you very well for the Acorn side, but switch to PC and it's a different story.

For example, I could run about five copies of *Ovation Pro* quite happily with a screen resolution of 1024 x 768 x 32 thousand. But try running five copies of a decent PC desktop publisher with 8 meg of RAM and you're in trouble!

William Simpson
Lincoln

Starting young

We have been reading *Acorn User* for 18 months. We're both only nine years old and would like to find out how to program. Are there any courses for young children or books – can you help us?

Nicholas & Matthew Carter
nikcarter@argonet.co.uk

There is a charity book which was mentioned in last month's news pages, also the StrongHelp manuals included on this month's cover disc contain lots of useful information about BASIC, SWI commands and other important machine information.

A good advert?

Recently I sent e-mails to three dealers who regularly advertise in *Acorn User* asking for current prices of the system which I wanted to buy.

Only one replied – so *they* sold me the Risc PC (32Mb + 2Mb VRAM), SCSI card and 17in monitor, with which I'm sending this e-mail.

If dealers can't be bothered to read and respond to their e-mail messages, then why do they bother to include an e-mail address in their ads?

Graham Dean
deano@argonet.co.uk

t e r s

The Acorn library

I just wanted to take my last comments a step further from where I left off.

Only a student learning to program can truly appreciate the Acorn computer. There is something immensely satisfying in creating a program that others will be able to use, one that you can continue to refine and improve forever. I have never had the same satisfaction programming the PC – Visual Basic and C++ are all very well, but it's the genuine programmers instinct to *get your hands dirty* that is left unappeased.

An enthusiast will enjoy reading through his first beginners book on programming the WIMP. He will marvel at how easy it is to start and how it feels to create your first, fully functional program running in a desktop environment.

He will then turn to the last page of Lee Calcraft and Alan Wrigley's *Wimp Programming for All*, and for a few months all will be well. But then the thirst for knowledge will grow once again. Where do you go from there? Many people would point to the *Programmer Reference Manuals*. That is said to be the logical choice. There is but one minor detail – the cost. A student, without income or substantial financial support, will meet a dead end. Other languages, such as C++, also come with high prices attached.

There should, therefore, be a means of borrowing books or buying them second-hand. Acorn programming manuals should be accessible in our libraries. Too many students have gone down the PC road because the resources are easily accessible. The libraries are loaded with hefty PC volumes. Of course, Acorn cannot compete on such a scale – the PC world has a thriving cash kitty – but there must be some books available to encourage the student to pursue their work.

William Simpson
Lincoln

Correct e-mail address

The letter about online programming tips on the Internet (Letters page December 1997) included the wrong e-mail address.

Please contact Mark Leggett at ca6mle@isis.sunderland. ac.uk. Apologies for any inconvenience caused.

Air your views

If there's something you want to 'get off your chest' or you have some interesting information for your fellow *Acorn User* readers, then write in to:

Letters page, Acorn User, Media House, Adlington Park, Macclesfield, SK10 4NP or e-mail: auletters@idg.co.uk

Please note that we cannot guarantee a personal reply to individual letters.

the Regan files

The 'square mile' – business centre of London – is not often an area you associate with Acorn. Nonetheless, by the time you read this there will be a small Acorn flag being flown there by T J Reproductions, who are about to relocate there from West Hampstead.

T J Reproductions – a company associated with everything to do with printing and DTP – were set up nearly a decade ago by Tony Tolver.

'I am in a unique position in the Acorn market. T J Reproductions are not a software house or a dealer – they are on another level, that of a service provider. We are not central players, but everyone knows us. These days we get new clients through word of mouth; we have not advertised for years'.

Most people I interview say they get into doing things by accident. For Tony this was literally the case:

'I was an electronics technician for 10 years. I had an injury to my wrist which meant I couldn't work for a while. I just happened to know someone who needed help in the printing trade, so I worked for him doing traditional repro work – photographic work, planning up by hand, half tones and making plates the old mechanical way.'

Tony had bought some old printing equipment which he was already using to help his existing clients, but he decided if he were to succeed with his company then he would have to move with the times. He went in search of a computer for desktop publishing. He had already looked at Apple Macs and IBM compatibles.

'I happened to see a review of Acorn in, of all things, *Computer Shopper* (this is going back a bit). The article was mainly about *Impression*.

'I had not heard of Acorn, but I saw there was a show coming up. I went to Acorn World and I liked what I saw. It was much cheaper than the Mac system. I bought one. One of the main reasons I bought an Acorn was that I ended up on the Computer Concepts stand talking to Gordon Taylor.'

'As I began to use my Acorn for normal typesetting, I found (like a lot of people have) that I had problems getting my files output to PostScript, or finding a bureau who would not say – *Acorn, is that IBM compatible?* So I bought myself an image setter, firstly to do my own work and then as a service to other people.'

Tony found that in the early days there were quite a few problems with *Impression*. With his experience from printing he soon found himself working with CC testing the program. He is now doing the same with *Ovation Pro*.

'I e-mail David Pilling quite regularly. He is working hard to bring *Ovation Pro* to professional specifications, putting in a lot of features, some of which are not available in *PageMaker* or *Quark Xpress*. There are a few features going into *Ovation Pro* which will make life easier for the person who makes the plates. Unfortunately *Impression* is looking a bit basic these days. The problem is that, as good as it is, *Impression* is only really a wordprocessor with desktop publishing facilities added on. There are times when you have to lay the page out exactly; you need things like proper guide rules, and an undo would be nice.'

> **You give me a selection of computers and I do not really care if it is made up of Acorns, PCs or Macs. I will use the computer which is the best for the job**

Despite this, *Impression* is still one of Tony's three favourite programs, the other two being *Vector* and *Photoshop*. He uses *Impression* every day in his business. He finds both it and the Acorn machine extremely reliable – although he's a self-confessed expert with problems on the Mac and the PC.

As a business, Tony has to have facilities for Mac and PC users. Even so, his clients are predominantly Acorn and he makes converts regularly. With the widening of the Internet, Tony has clients in Hong Kong and Africa.

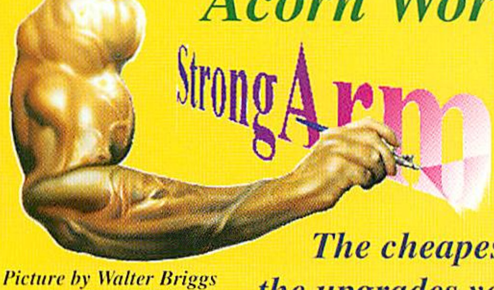
'I not a computer enthusiast', explains Tony, 'I am a pragmatist. You give me a selection of computers and I do not really care if it is made up of Acorns, PCs or Macs. I will use the computer which is the best for the job. For scanning large files I'll use the Mac with *Photoshop*. But for other things, *Quark*, *Pagemaker* and *CorelDRAW* seem so much hard work in comparison to the Acorn environment. OK, so one package does not do everything, but you can so easily go from one program to another'.

'The Acorn market seems pretty much the same as it always has been. I have not noticed any difference – there are still as many people coming to me as in the past. Some people go, but more and more are coming to me. At the end of the day, Acorns are still being used for the real work.'

Jill Regan AU


Tony Tolver photographed by Jill Regan

Acorn World prices for all during December!



RiscPCs



Picture by Walter Briggs using Studio24Pro

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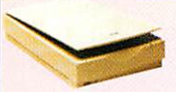
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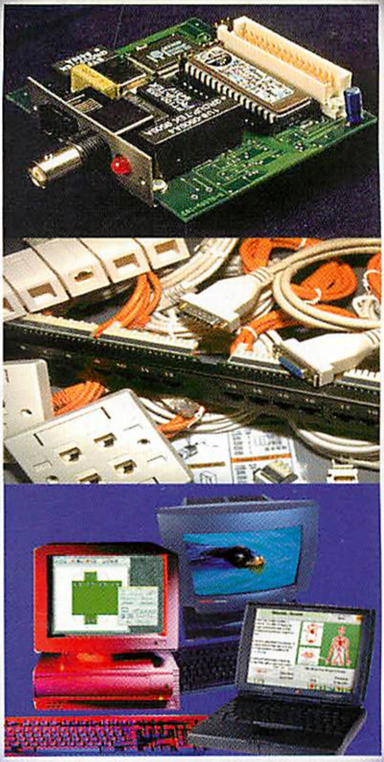
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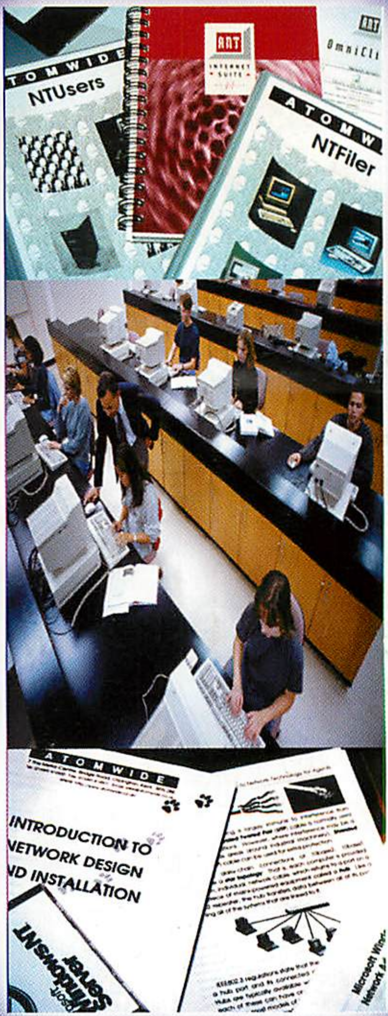
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